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TELEGRAPHIC ADDRESS—LANCET, LONDON

[TWO HUNDRED AND SEVENTY-TWO PAGES.]

TELEPHONE NUMBER—5356 GERRARD

No. I. OF VOL. I., 1906. No. 4297. Vol. CLXX. LONDON, SATURDAY, JANUARY 6, 1906 PRICE 7d.; POST FREE, 7½d. [Pp. 120+152.

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THE QUESTION CONSIDERED IN ITS THERAPEUTICAL AND ECONOMIC ASPECTS

INTRODUCTION.

WE sent recently to a group of recognised authorities upon the treatment of pulmonary tuberculosis the following scheme of the points on which the medical profession, and through that profession the public, require early enlightenment:—

"Medical officers of health are constantly asked to advise whether the neighbourhood would be benefited by the erection of a sanatorium for pulmonary tuberculosis, and medical men are similarly consulted either as to the suitability of a certain patient for such a sanatorium or the advisability of subscribing to a fund for providing one in the neighbourhood. On these points they find it difficult to give any reply which is backed by solid medical opinion.

By publishing answers from medical men whom both the medical and lay world know as authorities to the few appended questions we hope to furnish answers which will be for the time being very valuable. We quite understand that definite answers cannot yet be given upon many important points and that we have left many issues untouched, upon any of which we hope that you will give us information.

1. Has experience demonstrated the therapeutic value of the sanatorium treatment generally?

2. Are successful results obtained equally (*a*) in well-to-do patients; (*b*) in the working classes?

3. In the working classes must an elaborate system of insurance be combined; and are convalescent homes necessary to prolong the treatment?

4. What are the arguments for believing that the educational value of sanatoriums will be great and widespread?

5. Sanatoriums are considered by some people as places where severe cases may be segregated and by others as places where incipient cases may be cured. Ought there to be two sets of buildings?

6 What is a medical officer to say when he is asked whether a county authority or a private philanthropist is doing the best for the tuberculous by building a costly sanatorium?"

We knew that we had only touched upon certain aspects of an enormously large subject in putting these questions to our kind co laborators, and we did not desire to pin any one down to the task of answering according to category. As will be seen by the essays which follow, the various writers have taken their own line in reply, and we are sure that we anticipate the verdict of our readers in saying that an extremely valuable collective opinion is the result.

THE THERAPEUTIC VALUE OF THE TREATMENT OF CONSUMPTION ON SANATORIUM LINES.

BY SIR RICHARD DOUGLAS POWELL, BART., K.C.V.O., M.D. LOND.,

PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON; PHYSICIAN-EXTRAORDINARY TO THE KING; CONSULTING PHYSICIAN TO THE MIDDLESEX, BROMPTON, VENTNOR CONSUMPTION, AND ST. MARK'S HOSPITALS.

I HAVE no doubt whatever of the therapeutic value of the treatment of consumption on sanatorium lines which need not necessarily be carried out in sanatoriums. It supplies the hygienic conditions upon which all therapeutic measures must be based, the keynote of the treatment being the maintenance of the patient in an aseptic atmosphere and the provision of all hygienic measures of feeding, rest, and exercise adapted to his case which are calculated to raise his vital resistance to the highest pitch attainable. Whilst there is room for much advance upon sanatorium treatment there is none for retrogression from it. It has been led up to gradually as experience of the advantages of fresh-air conditions has grown and it may now be regarded as firmly established. Indeed, the principle has concurrently and irrevocably grown to be recognised as the basis of treatment not only for consumption but for all diseases.

The employment of sanatoriums in the treatment of phthisis is now recognised as essential for the great majority of cases, for the reason that few people even amongst those who are fairly well to do can command those conditions of locality, house facilities, garden space, nursing help, and medical supervision which are the important elements of the treatment. And even amongst the more favoured minority there are some who, having country houses with suitable aspects and other requirements, yet find the family conditions of life and temperament incompatible with restful home treatment. As regards the working-classes, so ostracised has consumption become by our hospitals, institutions, and convalescent homes that there is no alternative between the workman's own home or the scanty special hospital accommodation that exists and treatment in sanatoriums. And, indeed, the sanatorium, the ideal place for the treatment of the poor suffering from consumption provided the cases can be properly selected, can scarcely yet be said to have been fairly started for them in this country. It is, then, difficult yet to compare experience with regard to the results of treatment in the industrial cases with those of the upper

and middle classes; and there is the large class of office workers and shop attendants for whom there is little, if any, accommodation at all in the way of efficient sanatoriums.

In the organisation of sanatoriums for the industrial classes—and the point should not be forgotten with all classes—the demoralising effect of six months' idleness which is apparent in most cases after a "rest cure" must be taken into careful account. This can, and must be in some measure at least, counteracted by organising exercises in the shape of some kind of industrial work regulated to the powers of each individual. An attempt in this direction is being made with a considerable measure of success at the Brompton Hospital sanatorium at Frimley and will no doubt be alluded to more particularly by some of my colleagues.

The fact must be squarely faced that impossibilities cannot be effected with phthisis in any grade of the social scale. The majority of patients cannot return to the conditions under which they have broken down without the probability of relapse. They must think out, and their friends for them, a new line of life. Convalescent homes are of no use except to carry on the treatment and to give time with more assured health to reorganise the future mode of life. Advisory committees in connexion with charitable organisation bodies may do much in aid of finding, or starting, or advising with regard to new lines of work for those who have attained arrest or recovery under treatment. Many may, through friends or of their own initiative, find conditions under which they may resume work and keep health; others must relapse until the end comes. There are good grounds, however, for taking a sanguine view of the future as regards consumption amongst the poor. If preventive measures are wisely, patiently, and steadily persevered with, the cases for treatment will gradually diminish to numbers manageable for being more permanently dealt with.

The question of any system of insurance being utilised in the treatment of the consumptive industrial classes is a difficult one which I have touched upon elsewhere,[1] but as I take it that the object of these articles is to elicit opinions warranted by personal experience I will not dwell upon the subject here. Considering, however, the enormous expense to the rates involved by tuberculous disease, the large demands through it upon benefit societies, the great cost of it from mortality-claims to industrial assurance societies,[2] and the strain it involves upon charitable organisations, it can scarcely be doubted that a combination of funds from such sources might be advantageously arranged towards securing conditions for a diminished death-rate and increased longevity.

Cases of consumption must be classified into those suitable for homes, hospitals, and sanatoriums. The sanitary conditions for each class must, of course, be, so far as practicable, on equally good lines, but it is absolute cruelty to send some cases to sanatoriums as now constituted, whilst it is equally unjustifiable to keep others out. Homes or comfortable asylum conditions are required for advanced cases where symptoms may be treated and their last days made comfortable and happy. It is not enough, however, to relegate advanced cases of consumption to infirmaries or homes for the dying with a view rather to their removal from a sphere of harmfulness to others than for their own advantage and efficient treatment. These poor people should be provided for in hospitals and homes under conditions and with full medical treatment adapted to their cases. Not a few apparently hopeless cases make surprising rallies and acquire complete quiescence. Such cases, abandoned perhaps by orthodox practitioners, make the reputations of quacks who lucratively abide the processes of Nature's surprising recuperative powers. But for those who are doomed to continue a downward course watchful medical treatment and nursing care can infinitely allay their discomforts and sufferings. They require at our hands at least as much consideration as the more promising cases, and a percentage of beds should be provided for them at each special hospital and at each general hospital in order that nurses and students may learn how to treat them. Bacteriological observation does not justify the view that advanced cases with copious expectoration are attended with more danger from infection than earlier cases. Sputum examinations would warrant a contrary view.

Hospital management is again necessary for cases under diagnosis in acute stages or complications requiring close observation, nursing, and special medical or surgical treatment. For incipient and localised disease and for cases, many of which have passed through a short period of treatment in hospitals or in their own homes, the sanatorium treatment is best adapted. With the complete establishment of sanatorium treatment there are other therapeutic measures yet to be adopted, some of which have not yet been fully if at all evolved, such as the various uses of the creasote class of drugs, regulated tuberculin injections, organised hygienic exercises, and other measures.

There is an unfortunate, and, I am convinced, an exaggerated, belief in the person to person infectiousness of phthisis which is growing under the advocacy of sanitarian and antituberculosis societies. Admitting most of the preliminary data as to the origin of the disease by bacillary infection, the certainty of producing it in a large proportion of cases under experimental conditions of spraying with tuberculous sputum, and the concentrated prevalence of the disease under conditions of overcrowding and insanitation, I am still totally unable from my experience as a physician to endorse the view of tuberculosis being more than rarely acquired directly by one person from another. Were it so the aggregation of consumptive patients in sanatoriums or hospitals would be quite unjustifiable. And it is under this growing belief of such kind of infectiousness that it is already becoming very difficult to induce intelligent people to submit to treatment in sanatoriums. The reverse is the truth, however; patients with consumption are far safer in sanatoriums or hospitals than in their own homes. Medical men and servants administer sanatoriums with impunity. And why? The question would be unanswerable in accordance with the now too prevalent view of the direct infectiousness of tubercle. The reconcilement of the two views is, I am convinced, to be found in the fact that the tuberculous infection is, except under experimental conditions, rather a distributed one than direct from person to person. It is from the insanitary surroundings of patients rather than from patients themselves that infection is acquired. "It is in darkness and filth that tubercle flourishes."[3] As with the poison of most other acute specific infectious diseases, the tubercle bacillus is greatly increased in virulence when mingled with other dirt and dust microbes; under clean and sanitary conditions it is not to be feared.

With regard to the final question as to the value of costly sanatoriums, I can only say that the more cheaply we can get our results the better. With ample ground space and for the treatment of incipient or convalescent cases the hut system may be the best. For considerable numbers, perhaps exceeding 20, the sanitation, administration, and supervision become under this system difficult and costly; with really large numbers, exceeding

[1] Lecture on the Prevention of Consumption, Proceedings of the Twenty-second Congress of the Royal Sanitary Institute held at Glasgow, 1904. Journal of the Institute, 1905, p. 350.

[2] Dr. Hoffmann estimates that some half a million dollars a year are lost to the American Prudential Assurance Company by the consumptive death-rate. Transactions of the British Congress on Tuberculosis, pp. 364 and 374.

[3] "The Prevention of Consumption," loc. cit., pp. 353, 366.

100, I should say impossible: large institutions with central administration become necessary. The provision of a cottage sanatorium of, say, four beds for each group of three or four villages in country districts, with a few, perhaps half a dozen or a dozen, beds, with special hygienic provisions in the local infirmaries for advanced cases, would probably be economical and of great advantage in educating local medical men and keeping up their interest in the treatment of consumption. Consulting medical aid and supervision could be easily arranged for from the county towns. In this way the sanatorium treatment of the disease might with great advantage be distributed and cases recognised and treated in earlier stages. But there would still remain the need for larger sanatoriums in connexion with the big towns.

Wimpole-street, W.

THE SANATORIUM TREATMENT OF PULMONARY TUBERCULOSIS.

BY SIR WILLIAM H. BROADBENT, BART., K.C.V.O., M.D. LOND., F.R.C.P. LOND.,
CONSULTING PHYSICIAN TO ST. MARY'S HOSPITAL.

1. THERE can be no doubt as to the therapeutic value of sanatorium treatment. It has been exemplified in many cases which have come under my observation. Everything depends, however, on the skill and care with which the treatment is adjusted to individual cases; something also on situation and climatic advantages.

2. I have no personal experience of the results in the working classes, but the sanatorium experience of Germany, which is very favourable, relates to the industrial classes. In this country working men do not come under observation and enter sanatoriums at an early stage and can rarely remain under treatment long enough. While in the sanatorium they improve rapidly.

3. In order that working men may be induced to enter a sanatorium early and to remain for a sufficient length of time, it is obviously necessary that some provision should be made for the maintenance of the family. Rather than see his wife and children starve, a man will keep at his work as long as possible and return to it as soon as possible, regardless of the consequences to himself. How such provision is to be secured is a difficult question. The organisation of the working classes in this country is not such as to lend itself to compulsory insurance.

3B. It is not so much convalescent homes as industrial colonies that are needed after sanatorium treatment. The sanatorium is a sort of convalescent home itself. In one sanatorium in America the patient is only admitted on condition that he does such work as is ordered and undertakes to remain till he is considered fit to return to his own avocation. Permission to leave is only given when he can do a full day's work without rise of temperature.

4. It has always been the practice in a well-conducted sanatorium to impress upon the patients the importance of free ventilation night and day, of suitable feeding, of destruction of expectoration, and in a large proportion of the cases these instructions are to some extent carried out on their return home.

5. Sanatoriums serve two perfectly distinct purposes—the arrest of the disease in early cases and the prevention of its spread by advanced cases. This difference ought to be recognised. The isolation of advanced cases and, when this is impracticable, their removal from dwellings and surroundings in which they are foci for dissemination of the disease is necessary for the protection of the public, and is as much a matter of public health as the prevention of contamination of drinking water by enteric stools. It is a duty of health authorities everywhere and ought not to be left to charity.

6. A sanatorium provided by a county or other public authority, or by public contributions, ought to be of the simplest possible character. A private philanthropist may be allowed to choose what form his sanatorium takes on condition that he endows as well as erects it.

Brook-street, W.

ON THE OBJECTS AND LIMITATIONS OF SANATORIUMS FOR CONSUMPTIVES.

BY C. THEODORE WILLIAMS, M.D. OXON., F.R.C.P. LOND.,
CONSULTING PHYSICIAN TO THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.

THE invitation of the Editors of THE LANCET to discuss certain important questions with regard to sanatoriums about which there is a difference of opinion is a good one if such discussion evokes the matured experience of physicians, but I have written so much and so recently on sanatoriums that I hesitate to inflict on the readers of THE LANCET another communication,[1] however short.

The question has been asked if experience has demonstrated the therapeutic value of sanatorium treatment generally, and the answer of most of us is in the affirmative. No sensible physician ever expected that a few months' stay in a sanatorium would work such changes in the system of a consumptive as not only to arrest his disease but also to render him immune against all future attacks of the tubercle bacillus when he returned to the conditions under which the disease was engendered. Too great expectations were held out of the probable benefits of sanatoriums in this country by those who had had little or no practical experience of consumption and knew not what a serious and insidious disease it really is, and though a warning note was uttered by myself and others against such wild expectations they were encouraged by the daily press and led to grievous disappointment.

Sanatoriums are intended for cases of consumption of recent origin and with limited lesions with little or no fever. Such patients under the system of a well organised and well-equipped sanatorium in a good climate gain weight, colour, and probably muscular power, and show diminution, if not disappearance, of cough and expectoration and of tubercle bacilli. The physical signs are lessened and sometimes disappear, arrest of the disease takes place and these patients are said to be cured. But, alas, experience frequently proves this hope to be fallacious, as there is some danger of relapse even in the most promising cases if they return to unfavourable surroundings. Sanatoriums are not intended for advanced cases or even for patients where the lesions are moderate but show signs of extension and of breaking down and are accompanied by pyrexia. They are not places where severe cases ought to be segregated, for this is the function of consumption hospitals where severe cases of all kinds can be properly studied and treated with appropriate nursing, medicines, and food. Hospitals are as necessary in the treatment of consumption as sanatoriums and this is recognised in all countries which attempt intelligently to deal with tuberculosis as a whole. Such are Sweden and Denmark, for these, while distributing magnificent sanatoriums over the country on the best-chosen sites, also build well-equipped consumption hospitals near Copenhagen and Stockholm.

Where this division is not carried out, as I have witnessed on more than one occasion, the results are disastrous, for the sanatorium becomes choked with patients with advanced disease, for the most part bed-ridden and on their road to the grave, and what chance could promising cases have in

[1] THE LANCET, Jan. 30th, 1904.

such company? The Brompton Hospital has long recognised these objects, though circumstances prevented their realisation till lately. Now, in addition to the parent hospital, they have established an excellent sanatorium of 100 beds at Frimley for incipient tuberculous cases and by a most careful selection of patients, which the skilled diagnosis of their accomplished acting staff renders possible, the beds are filled with suitable cases. The results, as far as they go, are satisfactory and will in due time be published by the committee of management. The North London Hospital for Consumption has taken a similar course.

For the treatment of consumption three institutions are required: (1) a consumption hospital to deal with all acute and advanced cases; (2) a sanatorium for patients with incipient and limited lesions, for the most part able to take exercise; and (3) a settlement or colony of patients with arrested consumption where these can be employed on work adapted to their strength and capabilities. In the United States, especially in the Western States, a goodly number of the patients are to be found following outdoor occupations and proving themselves useful members of society. If the patients be retained at the sanatoriums, as they ought to be until the disease is arrested or, at any rate, quiescent, any further convalescent homes are unnecessary, for they should be transferred at once either to the proposed settlement or to their own homes to carry out there the hygienic life in the principles of which they have been trained.

With regard to the proposal of combining a system of insurance with the sanatorium movement, as has been done in Germany, I for one should welcome such a plan, but I doubt whether the British working man would support it unless he is compelled to do so by the State, as is the case in Germany under Bismarck's famous law for compulsory insurance of workmen against industrial accidents and sickness.

The question whether successful results are obtained equally in the well-to-do and the working classes in sanatoriums I should answer in the negative. As far as my experience goes the consumptives of the upper classes have more recuperative power than those of the working and lower classes and this comes out in sanatorial as well as in other forms of treatment. When I used to compare my hospital and private patients I often noticed that in a number of cases of tuberculous consolidation at one or both apices excavation took place much more rapidly among the poorer or hospital patients than among the well-to-do, and the same was the case with regard to extension of disease. Nevertheless, the working classes do make great progress towards recovery under suitable conditions. Fresh air and good food do wonders for them and they gain flesh and strength; but the improvement in the physical signs appears to me slower than in the well-to-do. It remains to be seen what the system of graduated labour introduced at the Frimley Sanatorium will do for the patients of the poorer classes and my impression is that it will put them more on a par with the well-to-do who owe so much to graduated exercise.

The educational value of the sanatorium cannot be questioned and as the patients return to their homes it will become more and more widespread. The consumptive who has been an inmate of a well-organised sanatorium, having been trained to deal with his sputum and other secretions is no longer a source of danger to his neighbours and returns to his family the ardent apostle of fresh air and of wholesome living and the strong opponent of dirt, dust, uncleanliness in any form, want of ventilation, and overcrowding. Such an apostle, though sometimes trying in a household where there are aged inmates or those suffering from rheumatism or bronchitis, does incalculable good in the dwellings of the poor and enforces his gospel by example as well as by precept. At the Brompton Hospital, which is now completely under the open-air system, many consumptives sit by preference by the open windows instead of crowding, as formerly, round the fires.

With regard to the reply of the medical officer when consulted by the county authority or philanthropist "whether they are doing their best for the tuberculous in building a costly sanatorium," I, objecting strongly to the word *costly*, would recommend him to advise the building of a hospital or sanatorium of some kind in the interests both of the community and of the patient. Cases of acute or advanced consumption with expectoration abounding in tubercle bacilli are more or less infectious and are therefore a danger to those around them. These cases ought to be segregated in a hospital where they can be properly attended to and disinfection carried out. Cases with slight or quiescent lesions require more fresh air and better food than is usually to be obtained in the dwellings of the poor. The great objection to all hospitals and sanatoriums is their cost, which in the best German and English institutions has been considerable, and which for the most perfectly constructed and equipped will always remain high. But we might provide some of our Poor-law infirmaries with buildings of a cheaper and perhaps more temporary kind if only the British architect would devote his energies to this practical problem and tackle the many difficulties which surround it. We must, however, remember that after all the great aim of statesmen, philanthropists, public authorities, and medical men ought to be the *prevention* of tuberculosis rather than its *cure*, and this can only be attained by the removal of all the conditions which deteriorate the constitutional powers and predispose the individual to the bacillar attack.

When we have abolished the evils of overcrowding, of excessive hours of work in an unwholesome atmosphere, and of insufficient food, and have secured the wholesome homes and workshops for the poor, contemplated by Acts of Parliament and by County Council regulations, when we have checked drunkenness and vice and have made sure that our population are properly fed and clothed, we shall be approaching the looked-for result—the prevention of tuberculosis.

Upper Brook-street, W.

THE THERAPEUTIC VALUE OF SANATORIUM TREATMENT IN PULMONARY TUBERCULOSIS.

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IN a paper[1] read before the Royal Medical and Chirurgical Society on Nov. 14th, 1899, as an introduction to a discussion on the Open-air Treatment of Tuberculosis, I stated my conclusions[2] as follows:—

"It is hardly necessary to state that in not all the cases treated on this system does arrest of the disease follow. The test to be applied to any method is not, Will it cure every case? but, Is it the best with which we are acquainted? If a perfectly certain cure for tuberculosis were discovered to-morrow it would necessarily have limits to its application and a very large number of existing cases would certainly be beyond those limits. In this, as in all other affections, the sooner the patient is brought under treatment the greater is the chance of the disease undergoing arrest. It is, however, a mistake to suppose that it is a method only applicable at a very early period of the disease. The experience of the

[1] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxiii., p. 1.

[2] Loc. cit., p. 24.

last ten years at Nordrach is conclusive as to the good effects which may in some cases be expected, even when the area of the lungs affected is considerable and excavation has taken place. On one point, at least, I am fully convinced—viz., that if Brehmer's method can be successfully applied in this country, as I have every reason to believe will be the case, we should take Nordrach as our model in preference to any other existing sanatorium. Those whose experience extends so far back even as 20 or 25 years have seen many methods of treating this disease put forward, supported in some cases by names of authority, and in nearly all by statistics of gratifying success already obtained. They come, they have their day, and go and are forgotten. Is this method, call it by what name you will, but another which will share the same fate? I think not; I believe that it has come to stay. No one can tell what the future has in store in the field of therapeutics and it is by no means improbable that the next century may witness the discovery of some agent capable either of conferring immunity to the virus of tubercle or of arresting the extension of tuberculous lesions, but a system which aims at increasing by every means the resisting power of the body must, I believe, always find a place amongst the methods to be employed in combating tuberculosis of the lungs."

During the six years that have since elapsed I have had considerable further opportunities of observing the effects of sanatorium treatment and am glad to be able to state that the opinion I expressed in 1899 as to the great value of this method of treatment as carried out by Dr. Otto Walther at Nordrach has been in no degree altered; I am still convinced that it is "the best with which we are acquainted." I am glad to observe that you use in the communication which you have forwarded to me the term "sanatorium treatment"; it is one the adoption of which I advocated in my paper. As I there stated,[3] "the object of treatment is not merely to secure the arrest of the disease but those changes in the affected area which characterise obsolete lesions. ..... It is important to remember that for such changes to take place a long period of time is required, to be measured in some cases by years, and that failing this it is very likely that the patient will suffer a relapse so soon as he submits to the strain which a busy life entails." Disappointment has resulted because this fact has not been recognised and relapses have been frequent. The treatment produces such an unwonted feeling of health that patients, no matter how carefully they have been advised, at times forget the necessity for such a prolonged period of care. The experience of Dr. Walther led him to formulate the rule that for two years subsequent to "arrest" the patient should avoid any violent exercise and my own experience has proved the wisdom of such advice. In nearly all the cases of relapse which I have observed the breakdown has been due, not to the work of life, but to over-exertion, either in sport or games. I regard this as the chief danger which confronts the well-to-do patient. Fortunately, in most cases a return for a few months to sanatorium life has sufficed to arrest again the activity of the disease.

THE NORDRACH SYSTEM.

The features which distinguish the Nordrach system are, very briefly:—1. An absolutely open-air life, day and night, in sunshine, fog, or rain. 2. No liegehalle. 3. An abundant diet, regulated by the judgment of the physician in charge, who must attend at all the meals. 4. Rest before meals. 5. Exercise regulated according to the bodily temperature and strength of the patient.

The form of exercise held by Brehmer to be most suitable for cases of pulmonary tuberculosis was slow up-hill walking. One of the reasons for the great success obtained at Nordrach is that the site is admirably suited to this form of exercise. In the paper already referred to I stated (p. 17): "It is very desirable that correct views should prevail upon the place which exercise occupies as an integral part of this method. Many members of the profession and the public appear to have grasped two facts in connexion with it, but this is not one of them. Such may be again reminded that a patient may lie in the open air till 'all's blue,' including, as I have observed, his cheeks, and be stuffed with food till he is as fat as a Strassburg goose, and yet the disease in his lungs may not be arrested. Brehmer's method, when properly carried out, is a system of training which aims at developing in every possible way the bodily strength, and for this exercise is as necessary as fresh air and plenty of food." The longest walk taken by patients at Nordrach is about 24 miles in the day. In the course of the discussion one of the speakers stated that the Germans had been unable to find Nordrach. In my reply I ventured to express the opinion that "if they had found Nordrach and lost nearly all the other sanatoria it would have been the better for them." Information derived from a friend who has quite recently visited Berlin and some sanatoriums in Germany leads me to think that Nordrach has not yet been found—indeed, he was told by a high official that they "do not know anything of Nordrach."

Since 1899 several efficient and many inefficient sanatoriums have been established in this country and from personal experience I feel able to state that only those that have taken Nordrach as their model have proved to be worthy of the support of the profession.

THE BROMPTON HOSPITAL SANATORIUM.

I am well acquainted with, and had some share in establishing, the Brompton Hospital Sanatorium at Frimley, which was opened for the reception of patients in March, 1905, and I would invite any of your readers who are troubled with doubts as to the value of sanatorium treatment in tuberculosis of the lungs to pay a visit there. I should like to take this opportunity of expressing my high opinion of the admirable organisation and discipline which Dr. M. S. Paterson, the medical superintendent, has instituted, as it is entirely to his efforts that the success so far obtained has been due.

Each batch of patients on arrival from the parent hospital at Brompton—through which they must all pass—is addressed by the medical superintendent on (1) discipline, (2) fresh air, and (3) feeding. As they have already been trained at Brompton for the lesson they have to learn they find but little difficulty in falling in with the more complete open-air life followed at Frimley. It was, however, not an easy task to establish the tradition of absolute obedience to orders which now prevails; the conviction as to the wisdom of the regulations came to the patients as they found themselves steadily improving in health and strength. Now everyone cheerfully goes about his appointed exercise or work irrespective of the weather, and if told off to roll the lawn for two hours he does it and is not found after five minutes sitting upon the handle of the roller.

As an illustration of the thoroughness of the treatment so far as "open-air" is concerned, I may state that the desire of the majority of the patients whose bedrooms on the upper floor are without a balcony is to be promoted to a room with a balcony, or to one on the ground floor, so that they may be able to pull out their beds and sleep in the open air. I was told when at Frimley in December, 1905, that most of the patients at that time slept in the open air when it was not raining. During the recent frosty weather the patients were told that they could close their windows for an hour whilst they were dressing, but it was found that none of the windows were closed. Hats and caps are not worn except when walking outside the grounds.

[3] Loc. cit., p. 8.

The appetite developed by an open air life is surprising; as most of the staff voluntarily lead the same life they experience a similar increase of appetite.

Daily routine.—6.50 A.M.: Rise and turn down beds and proceed according to "Morning Routine." 8.15 A.M.: Breakfast for tables 1, 2, and 3. 8.30 A.M.: Breakfast for tables 4, 5, and 6. 9.30 to 9.55 A.M.: Indoor work. 10 A.M.: Outdoor work or exercise. 10.50 A.M.: Lunch. 11 A.M.: Outdoor work or exercise. 12 to 12.45 P.M.: Absolute rest for tables 1, 2, and 3. 12 to 1 P.M.: Absolute rest for tables 4, 5, and 6. 1 P.M.: Dinner for tables 1, 2, and 3. 1.15 P.M.: Dinner for tables 4, 5, and 6. 2 to 2.45 P.M.: Absolute rest for tables 1, 2, and 3. 2.15 to 2.45 P.M.: Absolute rest for tables 4, 5, and 6. 2.45 to 4.35 P.M.: Work or exercise in grounds. 5 P.M.: Tea for tables 1, 2, and 3. 5.15 P.M.: Tea for tables 4, 5, and 6. 5.50 P.M.: Temperatures taken for tables 1, 2, and 3. 6.5 P.M.: Temperatures taken for tables 4, 5, and 6. 6 to 7.45 P.M.: Read papers, write letters, play indoor games, &c. 7.45 P.M.: Supper for tables 1, 2, and 3. 8 P.M.: Supper for tables 4, 5, and 6. 8.40 P.M.: Prayers. 8.45 P.M.: Bed. 9.15 P.M.: Lights out. 9.30 P.M.: Silence.

A quarter of an hour is allowed for smoking after each meal. A quarter of an hour is allowed before each meal for washing. Patients are not allowed indoors except for meals and rest hours until 6 P.M. without special permission. Patients may use the concert hall and reading room from 6 P.M. until prayers.

Sunday routine.—The routine is the same, with the following differences: There is no work. 9.30 to 10.35 A.M.: Patients walk two miles in all weathers. 11 A.M.: Divine service. 12 noon: Rest hour. 2.30 P.M.: Those patients who have permission may walk outside the sanatorium until 4.45 P.M.

The patient's day is thus so completely occupied that he has little leisure for introspection and I am informed that the only common complaint is "We are kept so busy we have no time for anything."

Graduated labour.—The new feature which Dr. Paterson has introduced at Frimley is graduated labour, a feature which appears to me to go far to solve the question as to the applicability of sanatorium treatment to the poorer classes. County authorities and the public are naturally asking: "Are the patients whom you call 'cured' able to work and earn their own living?" (I deprecate the use of the word "cure" but the public will have it so.) Upon the answer which we are able to give to this question the provision of adequate sanatorium accommodation for the poor depends, I believe we can state that the patients classed as "arrested" after treatment at Frimley are fit for work.

The gradation of exercise and labour is as follows:—Exercise and labour are for two periods daily, each of two hours' duration. 1. Slow walking exercise, beginning at two miles a day and gradually increasing up to ten miles a day. 2. Picking up fir cones and firewood in the grounds and carrying a "half-basket" (weight 11 pounds) to the stack. 3. Carrying a full basket of firewood and cones (weight 16 pounds). 4. Carrying a "half-basket" of gravel or stones from the gravel pit to the place where paths are being made or repaired (weight 21 pounds). 5. Carrying a basket of gravel or stones, the weight of which is gradually increased up to 38 pounds. 6. Rolling the grass or gravel. 16 men pull a roller weighing 15 cwt. 7. Digging ground already broken. 8. Mowing grass with a lawn mower. 9. Digging unbroken ground. 10. The same as under 9 but for six hours daily instead of four hours—i.e., the hours usually spent at rest are spent in labour.

The indications accepted as evidence of the arrest of the disease are: (1) absence of fever; (2) absence of adventitious sounds, except such as are indicative of fibrosis; (3) absence of cough and expectoration; (4) continuous gain of weight or maintenance of the patient's highest known weight; and (5) ability to perform labour incidental to grade No. 9 as above.

The point to which I wish especially to draw attention is that no patient is classified on discharge as "arrested" unless for three weeks continuously he can pass one or other of the following tests:—

Test A.—For patients who earn their living by manual labour: To be able on an ordinary diet and without rest hours to use a pick and shovel of the full size and weigh for six hours daily and to maintain his health. The shovels and spades are in three sizes, weighing 2, 4, and 6 pounds respectively. The picks vary from 3 to 7 pounds in weight.

Test B.—For patients who do not earn their living by manual labour, e.g., clerks, shopmen, or salesmen: To be able on an ordinary diet to perform the labour of grade No. 6 or No. 7 for six hours daily for three weeks and to maintain his health. These patients are, as a rule, gradually brought up to No. 9 and when it is found that they can do this work they are put back to No. 6 or No. 7. The theory is that a man doing the work described under No. 9 or No. 10 who on discharge will engage in work involving but little bodily exercise would suffer in health from such an abrupt transition. Further experience is, however, necessary upon this point. In some cases it is found that patients are unfit for No. 9 but that they can be raised to a standard of labour which is equal to their ordinary work. These patients are tested before discharge on the grade to which they have attained but they are not, as a rule, classified as "arrested."

The system has been gradually evolved and has not yet been in operation for a sufficient time to justify the expression of a final opinion as to its value, but there appears to be every reason for anticipating that it will prove successful. A visit to the sanatorium will convince anyone of the healthy, not to say robust, appearance of the patients on graduated labour. I am told that the desire of every patient on walking exercise is to be allowed to work; that the man engaged in collecting wood envies the man who is carrying gravel; that a patient with a large pick-axe is regarded as a fortunate being by his neighbour with a small one; and that, in a word, there is a general desire to obtain promotion to a higher grade of labour. So marked is this feeling that experience has shown that constant supervision and surprise visits are necessary, not, as might have been anticipated, to ascertain that the patients are doing their work, but to see that they are not exceeding the amount of work they are fit for.

The sanatorium is fortunate in having a public gravel pit on a breezy site close by where any amount of work may be done, and it is found that if a patient at work in the grounds is not making progress he is very likely to do so if sent to dig in the gravel pit. It should not prove difficult to adapt this scheme of graduated labour to the local features of any sanatorium provided that a sufficient area of land is either purchased or rented, and I see no reason why it should not prove equally applicable to sanatoriums for private patients. If it were explained to such patients that manual labour was an essential feature of the treatment I believe that few would refuse to perform it.

Long before the existence of a sanatorium in this country I was in the habit of sending patients to work in horticultural gardens and the good results which followed convinced me of the value of light labour in the open air. I believe that the ideal to aim at is to surround every sanatorium with such a garden, as no open-air occupation presents such a variety of grades of labour as is to be found in a horticultural garden.

Results.—The results so far obtained at the Brompton

sanatorium are as follows: patients admitted, 190; discharged, 89; under treatment, 101.

Cases discharged.—Disease arrested, 23; disease probably arrested, 4; left at own wish, 30; discharged as unsuitable, 16; convalescent cases,[4] 16; total, 89.

Patients send reports as to their health and occupation at intervals of three months after discharge. All the patients classed as "arrested" are known to be at work and earning their living, except such as have not sent the first report—i.e., a shorter period than three months has elapsed since their discharge. The 30 patients who left at their own wish did so for the following reasons: family reasons (e.g., wife out of work, wife in bad health, stoppage of club pay to wife), 19; "felt quite well and did not see the necessity for further treatment,"[5] 8; fear of losing their work, 2; because a patient was found smoking out of hours and in the woods and was discharged and he had been smoking with discharged patient but was not discovered, 1; total, 30. 16 patients were discharged as not suitable: disease so extensive that it was impossible for patients to work without rise of temperature or because suffering from dyspnœa, 11; coming home drunk, 1; smoking in the woods, 1; mentally deficient, 2; suffering from asthma, 1; total 16.

CONCLUSIONS.

My answer, therefore, to your first question is: That "experience has demonstrated the therapeutic value of sanatorium treatment" provided it is carried out on the right lines. To your second question I reply that, with the same proviso, "the results obtained may be equally successful with well-to-do patients and with the working classes." As to the necessity for "an elaborate system of insurance for the working classes," it may be stated that at Frimley nearly all the male patients who have broken down whilst in employment and have been valuable to their employers are found to be in receipt of full pay for six months. This is very kindly action upon the part of the employers and their generosity is much to be commended. The limits of this paper prevent me from discussing the general question of the possibility or desirability of adopting the system of industrial assurance as carried out in Germany. If we are able to obtain results which carry conviction as to the value of this method of treatment as applied to the poor then my belief is that, given a reasonable prospect of a patient being restored to a state of health which will enable him to earn his living, the money necessary for the support for six months of any who may be dependent upon him will generally be forthcoming from some charitable source.

Provided the treatment in the sanatoriums for the poor follows the lines above described, and the patient before his discharge is able to stand the labour test which immediately precedes it, there should be no "necessity for convalescent homes to prolong the treatment." I believe, however, that if the coöperation of the managers of convalescent homes throughout the country can be obtained these institutions, if utilised in a manner to be presently described, may be of great service in dealing with this disease.

The best answer I can give to your other questions is to state briefly the lines of policy which should, in my opinion, be followed in dealing with pulmonary tuberculosis throughout the country.

GENERAL SCHEME.

1. Every general hospital and every special hospital for diseases of the chest should be in relation with a sanatorium.

2. Every general hospital and every special hospital for diseases of the chest should have a tuberculosis department. This might be, but would not necessarily be, a separate clinique, but would be a bureau of registration with an almoner attached.

3. A register should be kept of all patients suffering from pulmonary and other forms of tuberculosis and the patients should be classified under the following headings: (*a*) suitable for sanatorium treatment; (*b*) suitable for general or special hospital or for home treatment; and (*c*) suitable for Poor-law infirmary treatment.

4. The department should supply a leaflet giving instructions to patients as to the proper method of dealing with the sputum and also provide them without charge with a portable spittoon and the necessary disinfecting solution.

5. It would be the duty of the almoner to visit the homes of the patients in order to ascertain if other inmates were already infected and by kindly persuasion and advice to induce them to submit to treatment and to take the necessary measures for preventing the further spread of infection.

6. Pending the acceptance of compulsory notification of tuberculosis the general hospitals throughout the country and such other agencies as could be enlisted in the work should collect information as to the existence of centres of infection and thus help to check the spread of the disease.

7. No effort should be spared to secure the admission to sanatoriums of patients in the early stage of the disease, in which stage alone in dealing with the poor is it likely that economic results—i.e., complete arrest with ability to work—will be obtained.

8. The cases must be selected by competent medical men. If admission to the sanatoriums is governed by any system of nomination or of subscribers' letters my belief is that the suitable cases will not be obtained and the scheme will fail.

9. The general and special hospitals should be in relation with convalescent homes in which a certain number of beds should be set apart for patients, possibly, but not certainly, suffering from tuberculosis. Whilst in the home these patients should be treated on sanatorium lines and such as develop the disease should be transferred to a sanatorium as opportunity offers.

10. The newly established Convalescent Homes Association has here a great opportunity for proving its usefulness. If it can obtain this much-needed coöperation between the hospitals and the homes it will have fully justified the efforts of its founders and will have performed a most useful work.

Clarges-street, W.

[4] A certain number of beds are reserved for "convalescents" who are not undergoing sanatorium treatment.

[5] Letters to patients now in the sanatorium show that several of these cases have relapsed.

THE SANATORIUM TREATMENT OF PULMONARY TUBERCULOSIS.

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IN attempting to arrive at a definite opinion as to the value of the sanatorium treatment of pulmonary tuberculosis numerous difficulties are met with. The statistical evidence now to hand is in some respects contradictory but on the whole decidedly encouraging. The contradictions are, perhaps, more apparent than real and arise in devious ways. One fact that causes confusion is that the authorities in charge of some sanatoriums admit patients in all stages of the disease, whilst others only take cases in the early stages. Thus the results are much more favourable in the latter institutions than in the former. It must be noted also that many of the figures that have been published through various channels refer only to the results achieved when the patients leave the sanatorium, whereas it is evident that that is not the crucial point, the essence of the whole matter being how the patients progress during subsequent years. As an illustration of the false impressions that might arise owing to the want of uniformity in the

manner in which results are stated I will take the very interesting statistics issued by Dr. Lawrason Brown, resident physician to the Adirondack Cottage Sanatorium, Saranac Lake, N.Y.[1] A summary of results in 1500 cases is given, the patients having been discharged from the institution from two to 18 years previously. In all, 497 (33 per cent.) patients were alive at the time the report was issued; 569 (38 per cent.) were dead and 434 (29 per cent.) could not be traced. Of the 497 patients who were alive 329 (22 per cent.) were "well"; 69 (4·6 per cent.) were "arrested"; 44 (3 per cent.) relapsed; and 55 (3·7 per cent.) were "chronic." Such results do not appear to be satisfactory as they only show 4·6 per cent. of arrested cases and 22 per cent. of patients who were well. Now if the 434 cases in which the patients could not be traced are eliminated the outcome, as Dr. Brown shows, is slightly better. In 1066 cases the patients could be traced; of these 31 per cent. were well; 6·5 per cent. were "arrested" cases; 4 per cent. had relapsed; 5·2 were chronic cases; and 53·3 per cent. had died. If, however, each class of case is considered separately, according to the stage of the disease, very different conclusions can be arrived at. Of the number of incipient cases that could be traced 66 per cent. were well and 21 per cent. were dead. Of the 563 advanced cases which were traced, 28·6 per cent. were well and 52 per cent. were dead; whilst of the 235 far advanced cases 2·5 per cent. were well and 90 per cent. were dead. It is evident, then, that in order that any opinion may be derived from figures all statistical reports must be based on a common plan, otherwise confusion must arise. Further, conclusions based only on a small number of cases are of only very little, if of any, value. Early cases of pulmonary tuberculosis may heal spontaneously, as is shown by post-mortem experience at general hospitals. If early cases are placed under any sensible treatment a fair percentage will show temporary improvement and it would be very fallacious to base conclusions on a dozen or so cases treated by a new method. For any therapeutic measure to be thoroughly tested the results must be based on a large number of cases which have been observed over a course of years.

Has experience, then, demonstrated the therapeutic value of the sanatorium treatment? From the mass of evidence that has now accumulated and from personal observation I am firmly of opinion that it has, provided that certain conditions have been fulfilled. In the absence of these the results have not been so good. The chief of these conditions are three in number: (1) if the disease was in the incipient stage and not acute when the patient first came under treatment; (2) if the patient remained under active treatment for a sufficiently long period which, in most cases, I consider should be at least six months; and (3) if a healthy outdoor life could be subsequently followed. There may be a few exceptions to the last-named condition, but a return to an indoor and sedentary occupation is accompanied by serious risks of a relapse. I believe the sanatorium treatment of pulmonary tuberculosis to be the best that has hitherto been introduced, but at the same time it is by no means a specific, and only a certain proportion of the patients can hope for partial or complete recovery. Certain adjuvants may from time to time be introduced. In some sanatoriums Koch's old tuberculin is being used and satisfactory results are claimed. Further experience and lapse of time, however, are necessary before any definite pronouncement can be made as to this addition to ordinary sanatorium methods.

Another question asked is: "Are successful results obtained equally (*a*) in well-to-do patients and (*b*) in the working classes?" Up to the present I believe not, but I see no reasons why the results should not be equally favourable as I shall presently explain. Owing to circumstances more patients of the well-to-do classes are, under the present conditions of society in this country, able to abide by the three principles I have named above than is the case with those of the working classes. Further, the more independent the patient as regards the necessity of earning a living the better is likely to be the result.

I have to thank Dr. H. G. Felkin for supplying me with the statistics of 100 patients who have been under the care of himself and Dr. R. Mander Smyth at the Linford Sanatorium, Ringwood, New Forest. In the accompanying table the immediate results—i.e., the state on leaving the sanatorium—and the ultimate results are both given. The success of the treatment in the early stages of pulmonary tuberculosis is well demonstrated, the ultimate course of the patients being most encouraging. The figures also show the temporary improvement that may be manifested even when extensive and advanced disease was present, although the ultimate result in these cases was generally bad. I have instanced these results as indicating what may be achieved in the class of patients who can, in the majority of instances, follow out the injunctions of their medical advisers.

Pulmonary tuberculosis has been denominated a "social malady" and undoubtedly the better the social position of the patient the better as a rule is the prognosis. With the working classes it is generally very difficult to carry out in every particular the requirements for successful sanatorium treatment. The worker is obliged from the force of circumstances to disregard slight illnesses and in the majority of instances does not seek medical advice until the pulmonary

TABLE OF RESULTS OF TREATMENT AT THE LINFORD SANATORIUM, RINGWOOD, NEW FOREST.

Site and stage of disease.	Immediate result.					Ultimate result.									
						Alive after one year.		Alive after two years.			Alive after three years.			Died under one year.	Died above one year.	Died above two years.
	A*.	I.	S.	W.	D.	A.	S.	A.	S.	W.	A.	S.	W.			
One lobe, early disease	7	7	—	1	—	4	3	1	1	—	4	1	—	1	—	—
,, ,, advanced disease ...	—	1	1	—	1	—	1	—	1	—	—	—	—	—	—	—
Two lobes, early ,, ...	3	14	—	3	1	3	2	3	3	—	—	3	1	1	—	1
,, ,, advanced ,, ...	—	7	—	1	2	—	3	—	1	1	1	—	—	—	1	1
Three ,, early ,, ...	1	12	1	—	2	—	4	—	2	2	1	2	—	—	—	1
,, ,, advanced ,, ...	—	5	—	3	1	—	1	—	—	—	—	—	—	5	—	1
Four ,, early ,, ...	—	9	—	2	—	1	1	—	1	—	—	—	—	5	1	1
,, ,, advanced ,, ...	—	7	—	3	1	—	2	—	—	—	—	—	1	4	1	1
Five ,, ...	2	—	—	1	1	—	2	—	—	—	—	—	—	1	—	—

*A = arrested. I = improved. S = *in statu quo*. W = worse. D = died.
Seven of the patients were lost sight of and one patient died from other causes than pulmonary tuberculosis.

[1] The Journal of the American Medical Association, Nov. 21st, 1903.

disease has passed beyond the stage when the chances of cure are highest. He dates his illness not from the commencement of the symptoms but from the time when he has to give up work. Even if the patient should come under medical observation when there is only slight infiltration in one lung and consents to undergo suitable treatment, if he or she be married, the thought of "home" and those dependent on their labour and care is constantly present and a natural source of worry and anxiety. Consequently, if improvement be manifested after a few weeks, the man is tormented with the idea that his wife and family are suffering from his absence from work and the loss of the income derived therefrom, and he insists upon returning to work when the reparative processes have only just begun, with the almost certain consequence—a relapse. The woman acts in a similar manner and against all advice returns home to her children and deplorable results ensue. Not only does she herself rapidly become worse, but there is possibility of her infecting others. These considerations naturally weigh less if the patient is unmarried and has no one dependent upon him or her. A longer stay in the sanatorium is then possible and a prospect of arrest of the disease more hopeful. But even if the first two conditions are fulfilled—an early diagnosis and six months' residence in the sanatorium can be carried out—all the benefits thereby attained may be ultimately set at naught by the patient returning to unhealthy surroundings and an unsuitable occupation. A man accustomed to outdoor life may be able to continue to pursue the course of life he has been taught whilst under active treatment. But what is a man who has been brought up as a clerk, a lithographer, a baker, or a tailor to do if he cannot return to his former means of earning a living? Such men know nothing of a country life and yet if they return to their former occupations relapse is most probable. Yet how, with the necessary change of work, can they hope to earn sufficient money to support themselves and those dependent upon them?

The majority of the patients who entered the sanatorium in the early stage of the disease and remained a sufficient length of time there will probably have been discharged as "greatly improved and fit for work." Other patients will have been sent out as "unfit for work" and advised to "take things as easily as possible." Inquiries into the future of these two classes yield peculiar results. According to statistics at the end of four years about an equal percentage are alive and able to do light work. The explanation is that those who were discharged "fit for work" returned to hard and unsuitable labour and surroundings and many of them speedily relapsed, whilst those "unfit for work" led quieter and more sheltered lives, capable, perhaps, of undertaking a little light work, and being carefully looked after by their friends or charitable institutions. They were thus able to drag on through an invalid life and did not suffer from severe recrudescence of active disease.

In the public mind "quiescence" is too frequently confounded with "cure" of the disease. Quiescence or temporary arrest may be brought about within six months under suitable treatment, but two or three years at least are required before "cure" can be pronounced. Here lies the difficulty in inducing patients to appreciate the consequences of "after-treatment" in the shape of suitable employment subsequently to leaving the sanatorium. Sanatoriums for the working classes, if they are to repay the money expended upon them, must be accompanied by farm colonies or other means to instruct the patients in suitable employments. Otherwise the ultimate results can only be disappointing.

This consideration leads to a third question. In the case of working classes, must an elaborate system of insurance be combined with a system of sanatoriums and are convalescent homes necessary to prolong the treatment? To both these points I unhesitatingly answer "Yes." I consider that the proposed schemes for building such institutions will prove a failure unless insurance against disease is made compulsory. The idea that the institutions should be supported by the funds of trade unions, friendly societies, and kindred associations is excellent, but judging from the speeches made on the subject by those who are not medical men very wrong impressions have been created in their minds as regards the true significance of open-air treatment. The idea seems to have arisen that a person suffering from "consumption" has only to go to a sanatorium for a few weeks—"three months" is the term frequently used—in order to be "cured." Even in the case of highly educated individuals quiescence is mistaken for cure, and assemblies of working men receive with applause the announcement that the speaker has known fortunate individuals who have secured admission into a sanatorium for a few weeks to come out cured. Exaggerated notions are thus excited and the sanatorium treatment comes to be regarded as having an immediate and miraculous effect. Those who are intended to be responsible for the maintenance of these sanatoriums must be made to understand thoroughly the three principles I have already alluded to—early diagnosis, prolonged stay in the sanatorium, and subsequently suitable employment. In order to secure these essentials to the workers, I consider compulsory insurance to be absolutely necessary. A working man will far more willingly seek medical advice if he knows that if prolonged treatment is necessary his family will be supported during his absence. Consequently, instead of struggling on until he can work no longer, being afraid of losing a good situation, as soon as the early symptoms develop, such as cough and loss of weight, he would at once go to a medical practitioner in order to ascertain the nature of the malady. An early diagnosis would thus be much more frequent than in the present circumstances, and so the success of sanatorium treatment would be correspondingly increased. Further, the knowledge that his family would not be in want of the necessities of life would enable the patient to remain the necessary length of time in the sanatorium and so would diminish the risk of relapse. Aid should be forthcoming from the insurance funds to help to support the patient and his family until he could learn some outdoor employment. In such circumstances hopes of permanent cure would be considerably brighter than is possible under the present condition of affairs in this country. The oft-quoted German statistics, especially of the railway workers, demonstrate the advantages that can be gained by imposition of compulsory insurance.

If self-supporting sanatoriums are actually brought into existence one most important point must be insisted upon, and that is, that although the funds will be provided by trade unions and friendly societies, yet the management of details must be vested in the hands of medical men. As I have already several times pointed out, early diagnosis is all-important if success is to follow, and therefore the selection of cases must rest entirely with the medical officers and not with the officials of the supporting societies. For not only must the disease be in an early stage but indications of activity must be absent. The sanatorium will in a certain sense belong to the working men but that must not give them the right to nominate for themselves the patients who are to be admitted. If a worker is found to be suffering from pulmonary tuberculosis in an advanced stage there will naturally be a wish amongst his fellows, kindly disposed as they are, to "give that man a chance" by nominating him to a bed in the sanatorium and to try to insist on his admission. It may seem hard on the individual, and such a course may be deplored, but if the maximum benefit is to be

obtained from sanatorium treatment such cases must be refused in order not to fill the beds and to prevent those who might be permanently cured from occupying them.

I have already referred to the necessity of combining farm colonies with sanatoriums for the working classes, and convalescent homes should be of this nature. Not "convalescent homes" as at present understood, where the patients have nothing to do but loaf about all day, but institutions where the patients are compelled to undertake a certain amount of work daily under the superintendence of the medical officers. I should also extend compulsion to do light work to patients in the sanatoriums. This plan is now adopted with excellent results in the sanatorium at Frimley in connexion with the Brompton Hospital for Consumption and Diseases of the Chest. Sanatorium life, as usually carried out, tends to considerable demoralisation of the patients owing to the lazy time enforced upon them. If a man is a suitable subject for sanatorium treatment, in the vast majority of instances, after a brief period of rest, he is capable of performing light work, and should be compelled to do so, of course, under medical supervision. I should even be prepared to go further and to say that if after six weeks' treatment a man is unable to do about three hours' light work daily his is not a case which is likely to obtain the maximum benefit by sanatorium methods, and should accommodation be necessarily limited he should be transferred to one of the special hospitals for diseases of the chest to make room for one more likely to be restored to permanent health.

In concluding this part of the subject I would express the opinion that if all the above indications are rigidly carried out, then sanatoriums for the working classes would be likely to yield results in every way as satisfactory as those intended for well-to-do patients who, as a rule, can more easily satisfy the requirements for successful treatment.

Sanatoriums are of value in other ways than as purely therapeutical instruments. They are destined to play a part, although in my opinion a subsidiary one, in aiding to stamp out tuberculosis or, at any rate, in decreasing its incidence. Their educational worth is considerable. Patients whilst under treatment are instructed not only as to the manner of life they should lead after leaving the institution, but they are also taught how they may subsequently help to lessen the spread of the disease. Patients naturally vary much in the way in which they respond to such instruction, many showing a most intelligent grasp of the situation, whilst others seem to fail to understand the importance of the use of the handkerchief or of the necessity for the proper disposal of the sputum. Nevertheless, the injunctions so strongly impressed upon the patients by the medical officers must have a most salutary effect in preventing such patients from becoming a danger to their fellow creatures. The spread of the disease is thus to some extent lessened, and the lessons which the patients receive have a direct effect in preventing possible infection of others on their return to their own homes—an important point when the patients are married and have families. Further, by always living a hygienic mode of life they are enabled, as far as their circumstances allow, to improve their domestic hygiene in such a manner as will permit them to continue the treatment in their own homes. Here, however, innumerable difficulties are likely to arise and to prove insurmountable unless actual change of residence and occupation can be accomplished. If this cannot be brought about, however, the educational value of the sanatorium is by no means lost. The patients have ample opportunities of spreading their acquired knowledge to those about them. They can point out to their fellow workmen the dangers that attend promiscuous expectoration. If they can impress upon other people that spitting is a dirty procedure and "bad form" they will do much in helping to limit the spread of consumption. To whatever perfection the institution of sanatoriums may come, however, they can only help in a minor degree in directly exterminating tuberculosis. It is the correct education of the masses and improvement in sanitary matters generally that will be the great elements in the fight against the disease.

There is another way in which the educational powers of sanatoriums may prove useful, and that is by stilling the alarm that is gradually rising in the public mind in reference to the infectivity of pulmonary tuberculosis. The idea has arisen that this disease is "most infectious" or "as infectious as small-pox," to quote phrases which have been publicly used by laymen. Such dicta are capable of bringing about grave social disasters. It should be the duty not only of the medical officers of sanatoriums but also of practitioners generally to explain to their patients that pulmonary tuberculosis is infectious, but that its infectivity is of a low order and not to be compared to that of scarlet fever, whooping-cough, and other well-known infectious diseases. Further, that with proper disposal of the sputum risk of infection is reduced to a minimum. It should also be pointed out that the droplets expelled from the mouth during coughing by a patient suffering from tuberculosis of the lungs or air passages may also be a source of danger which may be guarded against by the habitual use of the handkerchief. Such handkerchiefs should be directed to be used for not more than one day and then be thrown into boiling water before being washed. Unless such tuition be forthcoming the unfortunate sufferers from tuberculosis are likely to be treated as lepers were of old and to be entirely shunned by their fellow creatures. The same idea as to the infectivity of consumption is also likely to bring disrepute upon certain health resorts in which sufferers from tuberculosis, especially of the pulmonary variety, are wont to assemble. This scare has its origin almost entirely in the minds of the laity and there is no trustworthy scientific evidence to support it. On the contrary, such precautions are now taken in those resorts against possible infection that no danger need be feared by other visitors to the health-giving climates.

During their residence in the sanatorium the patients naturally learn the significance of the temperature chart and subsequently on their return home are able to safeguard their interests by occasionally taking their own temperatures, watching more particularly the effect of exercise, and acting as they were directed whilst under treatment. It has been suggested that, as a brief stay in the sanatorium is sufficient to instruct patients in the essential points of the treatment, each patient should only remain a few weeks in the institution and then continue the same course of life at home. With well-to-do patients such a course may sometimes be adopted, but with the majority of the working classes I believe such a procedure would not only end in failure but a valuable therapeutic measure would be brought into disrepute. I feel convinced that for the latter class of patient the only course that holds out real hope of success is the prolonged stay that I have already advocated.

I have stated above that, in my opinion, the sanatorium, as now understood, is destined only to play a subsidiary part in the attempt to stamp out tuberculosis. I believe that, as regards prophylactic measures, segregation of advanced cases would prove more effectual. At the present time the lot of the working man or woman who is suffering from advanced pulmonary tuberculosis is sad indeed. The special hospitals for diseases of the chest refuse to admit such cases, arguing that if advanced cases were admitted the beds in those institutions would speedily become filled with hopeless cases who might remain for months and so prevent the admission of patients in an early stage of the disease when the chances of arrest would be much more probable. Rules are therefore in force limiting admission to those patients

who are likely to derive permanent benefit from a course of treatment in the hospital. The general hospitals are likewise averse to admitting advanced cases. The surroundings and arrangements in such hospitals are not conducive to successful treatment of pulmonary tuberculosis and if the precautions against infection are relaxed though through no fault of the hospital authorities or nursing staff, there is possibility of other patients in the ward contracting the disease. Personally, however, I am not aware of any instance in which infection has been proved to have spread in this manner. Nevertheless, I think there can be no doubt that the wards of a general hospital are not suitable for advanced cases of pulmonary tuberculosis. The class of patients, therefore, of which I am writing, if they cannot remain at home, are forced to seek refuge in the workhouse infirmary. Some patients naturally shrink from such a course, although some of the Poor-law infirmaries are now making special arrangements for the reception of these cases. If these patients remain at home in small and ill-ventilated rooms, in which very probably there are far too many inhabitants, the risk of infection must be great. Doubtless the life led by countless numbers of the working classes under these conditions is responsible for the extreme prevalence of the disease in large towns and industrial centres. The provision of institutions for advanced cases would thus supply a great want but whether the Poor-law buildings would be sufficient is very doubtful. Certainly patients with advanced disease should not occupy the same buildings as incipient cases. The routine of life is so different that the administration would be very difficult and therefore separate buildings must be established. I need scarcely state that patients with advanced disease frequently bring up large quantities of sputum teeming with tubercle bacilli and that unless this material is properly disposed of it is a fruitful source of infection. By the segregation of this class of invalid and the provision of suitable plant for the destruction of the expectoration a distinct advance in the prevention of the disease would be made.

Finally, the question has been asked: "What is a medical officer to say when he is asked whether a county authority or a private philanthropist is doing the best for tuberculous patients by building a costly sanatorium?" The answer to this must be given in two parts. Firstly, I have already stated I believe that the sanatorium treatment would be as beneficial for the working classes as for the well-to-do provided that certain essential points are absolutely insisted on. The money would be well expended if it could be assured that after the sanatorium was built the admission of patients would be intrusted to medical practitioners who by reason of long and special experience had constituted themselves experts in the early diagnosis of tuberculous disease, more especially of the pulmonary variety. From the decision of these experts there should be no appeal. When once admitted each patient must promise to remain as long as considered necessary by the medical officer in charge. Also, that except in special instances to be selected by the medical officer, each patient should strive to obtain outdoor employment for some years subsequent to active treatment in the sanatorium. If these stringent regulations could be complied with then, and only then, could the maximum benefits be derived from the sanatorium methods; otherwise I believe the proposed gift would be better expended in other directions. I admit that these proposals may sound severe but I am convinced that unless they are carried out sanatorium treatment would not be any better than the measures now employed at the special hospitals for diseases of the chest in London and elsewhere. Considerable benefit is certainly derived from the present institutions. Years may be added to a man's or a woman's life but in a large number of cases the disease is only quiescent and not cured. With the sanatorium method carried out on the lines I have named in all probability "cure" would be far more frequent than is at present the case. Secondly, What form should a sanatorium take? Should all the money allowed by a county authority or given by a private philanthropist be expended in the actual building of a large sanatorium? Probably the majority of those who have had experience in the working of sanatoriums would reply that a portion should be devoted to the erection of the buildings, whilst the remainder should be devoted to the purchase of land and the subsequent development of that land which should be carried out by the patients who are being, or had been, treated in the sanatorium. The farm colony thus evolved could be made to a great extent self-supporting and would be a great element in preventing patients with quiescent disease from returning to town life and unhealthy occupations. The subsequent lives of the patients in the colony would then tend to complete the reparative processes and so to transform quiescence into complete arrest.

THE ECONOMIC VALUE OF SANATORIUMS.

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THE history of many medical discoveries is being repeated in the question of the value that should be attached to sanatoriums in the fight against pulmonary tuberculosis. At first, men like Bodington and Brehmer were reviled and treated as outcasts. 50 years later a large section of the medical profession in England adopted with enthusiasm the principles of Brehmer, or what each individual conceived to be the principles of Brehmer. For a period sanatoriums occupied a too prominent and isolated position in the fight against tuberculosis, as Mr. E. C. Hort of Torquay prophesied they would,[1] and now we read week by week articles and letters on the subject "Are Sanatoriums Worth While?" The explanation of the latter change of opinion lies (apart from prejudice and ignorance) in the old truth that no instrument and no method is of much value unless it is used in a workmanlike manner.

Sanatorium treatment cannot be judged by the combined results of English sanatoriums for the simple reason that sanatoriums in England which are worthy of the name can be counted almost on the fingers of one hand. If the public is taught to regard the sanatorium treatment as a specific cure for all forms and stages of pulmonary tuberculosis those who teach this doctrine will be discredited and, what is of more importance, sanatorium treatment will fall into undeserved disrepute. If a working man in an early stage of consumption is sent to a sanatorium his disease may be arrested but if he is allowed to return to precisely those conditions under which he contracted the disease—too hard work, bad air, insufficient food—the disease will assuredly return. Is it fair when this happens to say that sanatorium treatment is of no avail? The failure in such a case, and there are many of them, is due to a misconception of the place which should be taken by a sanatorium, whether it is used for the cure of individuals or whether it is used in the larger question—the prevention of tuberculosis.

In England, also, workmen often leave a sanatorium as soon as they begin to feel stronger and before the disease is arrested, because no arrangements are made for their families during their absence. Many of these men have their lives shortened by being sent to sanatoriums for an insufficient time, and for this reason I believe the practice of admitting working men, suffering from consumption, to sanatoriums for a few

[1] The Open-air Treatment of Phthisis, Berne, 1901.

weeks "for the purpose of being educated" is not likely to lead to very good results. During a man's stay at a sanatorium there is a constant fight between the forces of the body, which are being strengthened, and the tubercle bacilli, which are being placed at a disadvantage. The principle of the survival of the fittest applies to micro-organisms and the last tubercle bacilli to succumb are probably the strongest. Consequently if a man leaves a sanatorium too soon it is possible that when he leaves there are a smaller number of bacilli in his lungs, but that these bacilli are more virulent as a whole than those present in his lungs when he entered the sanatorium. When such a man returns to the conditions under which he contracted the disease, he has to contend with the conditions which undermined his strength and possibly with a more virulent race of bacilli. In consequence it not infrequently happens that he dies sooner than if he had never gone to a sanatorium. Is it fair to attribute such a result to the defects of the sanatorium treatment?

Before expressing an opinion as to the value of sanatoriums it is necessary, in view of what I have just stated, to express a general opinion of what I mean by sanatorium treatment. The efficiency of a sanatorium depends entirely on the physician in charge of it. A sanatorium is one part hospital and three parts school. At such an institution, if properly conducted, a patient is taught to eat sufficient food and not to be afraid of fresh air. In other words, he is taught to return to a natural and healthy mode of life. The two factors, sufficient food and fresh air, constitute merely the elements of the great truth which anyone suffering from consumption has to learn if he wishes to remain *permanently* well when the disease has been arrested. This great truth is the necessity of avoiding everything known to undermine the strength of those forces of the body which deal with any invasion of micro-organisms. If a tuberculous individual in whom the disease has been arrested will not interfere with nature then nature, in the majority of instances, will overcome his disease. Fresh air and sufficient food are necessary if these bodily forces are to be in a position to overcome the invasion of tubercle bacilli but they are of comparatively little avail if the individual is allowed to become over-fatigued or is subjected to too severe a strain. What a patient learns at a sanatorium, and only at a sanatorium, is the fact that *fatigue* kills the majority of consumptives and causes the frequent relapses of the disease. The avoidance of fatigue is therefore of primary importance. This is recognised by all competent physicians but the principle has been carried too far by some. The Dettweiler school regard rest in bed or in liegehaller for long periods as essential, and consequently many of the German sanatoriums are in reality convalescent homes to which a number of liegehallen are attached. Dr. Otto Walther of Nordrach and his school essay the more difficult task of following in Brehmer's steps and of prescribing gradually increasing exercise to their patients, as soon as their temperature shows that the disease is sufficiently inactive to permit it. This form of treatment is more difficult because the decision as to the amount of exercise to be taken demands great judgment. More than once I have been accused in the medical press—to my personal satisfaction—of holding a brief for Dr. Walther. I would repeat what I have said often before, that Dr. Walther's system of treatment is justified by its results and that patients who have had their bodily forces gradually and judiciously increased by means of exercise show, in my experience, more permanent benefit than those treated in liegehallen. This point requires emphasis because it is the key to the solution of the economic value of sanatorium treatment so far as the working classes are concerned.

Many a working man is discharged from a sanatorium with the disease quiescent and arrested but without having had his capacity for manual work developed. On leaving the sanatorium he usually obtains employment of the kind which he has been accustomed to follow. He may still have fresh air and sufficient food and yet he relapses—why? Because his work tires him and undermines the natural forces of his body which deal with micro-organisms. He fails because he was not gradually educated back to work, according to his strength, *before* he left the sanatorium. Certain attempts to remedy this defect have been made but most of them have been half-hearted and not properly organised. In the German working men's sanatoriums the patients "play at being rich men" and so refuse to work whilst at the sanatoriums, as to do so would be contrary to their social democratic principles.

An organised attempt to send working men patients away from a sanatorium, not only with their disease arrested, but with an educated capacity for hard work, is being made at the Brompton Sanatorium at Frimley. This is due to the initiative of Dr. M. S. Paterson, who prescribes walking exercise for a period and then such manual labour as the condition of the patient may indicate. The patient is kept under strict supervision and gradually the amount of work is increased. The results so far have been impressive but no judgment can be passed on the success of Dr. Paterson's work until sufficient time has elapsed to show the permanency of the results. Personally, I did not think that the patients could have been educated so rapidly to full work without harm, but if the results hitherto obtained are maintained, the economic possibilities of sanatoriums for the working classes will be immensely increased.

What proof can be adduced of the therapeutic value of sanatoriums in the treatment of pulmonary tuberculosis? This question may be approached from several standpoints: (*a*) the opinion of physicians accustomed to deal with the disease; (*b*) the statistical results of sanatorium treatment; and (*c*) the more purely economic results.

Physicians who are accustomed to see large numbers of individuals suffering from consumption consider the sanatorium treatment superior to any other known method. This is sufficiently shown by the fact that after due trial of modified sanatorium treatment at both the Brompton and the Mount Vernon Hospitals for Consumption the physicians persuaded their respective committees of management to establish a sanatorium of 100 beds in connexion with each hospital.

The statistical results are not dealt with so easily. In the first place there are few available statistics of the results of treatment before the advent of sanatorium treatment which are drawn up in such a way as to show the economic value of the various forms of treatment adopted. Then, again, in England we have not at hand a sufficient number of trustworthy statistics of the results of sanatorium treatment. We are therefore obliged to draw on the results obtained in the sanatoriums erected for the German working classes. There are naturally fallacies in any comparison between results obtained in the treatment of consumption before and after the advent of the sanatorium treatment, but even when allowance is made for these I think that the subjoined tables clearly indicate that the results obtained to-day show a decided improvement on the results obtained before 1870.

Dr. J. E. Pollock[2] published in 1865 the results of treatment in 3566 cases of phthisis in all stages which had been observed by himself. The average duration of life of all these cases from their first symptoms was 30·59 months. The results obtained to-day *without* sanatorium treatment are probably much the same as these. For example, Dr. F. C. Shrubsall has kindly ascertained for me that the average

[2] Prognosis in Consumption, p. 77.

duration of life of patients who die in the Brompton Hospital is 25 months from the date of their first symptom. It is difficult to analyse Dr. Pollock's statistics for the purpose of comparing them with results obtained in German sanatoriums where a large proportion of the cases are in an early stage. It is best, therefore, to confine our attention to 194 cases observed by Dr. Pollock and labeled "chronic first stage," as these seem to have been the cases which gave the earliest manifestations. The following table shows the results obtained at the end of five years :—

Results of 194 Cases of "Chronic Phthisis in the First Stage" (1867).

—	At end of Second year.	Third year.	Fourth year.	Fifth year.
Dead	13 per cent.	42 per cent.	66 per cent.	83 per cent.
Alive but capacity for work not stated	87 ,,	58 ,,	34 ,,	17 ,,

Dr. C. J. B. Williams[3] stated that out of 7000 hospital cases of phthisis he could only reckon 24 instances of cure and 51 of partial cure with indefinite duration, or a total of 75; and out of 1000[4] patients in the upper classes treated between 1840 and 1870 only 34 recovered completely, though 285 could be classed as well when regarded in relation to their general health. Thesere sults were in advance of anything previously published but no statement is made as to the time which had elapsed in the case of these 285 patients from the commencement of their disease—that is to say, of the length of time during which they had maintained their good condition, beyond the fact that they were "well" when last seen. At the best, then, 28·5 per cent. of Dr. Williams's cases amongst the upper classes were capable of "following their occupations without any recurrence of their former symptoms," whilst of Dr. Pollock's patients only 17 per cent. of early cases were alive at the end of five years.

In order to obtain the most recent and most authoritative information[5] of the results of the German sanatoriums for the working classes, I recently paid a brief visit to Berlin where every facility was accorded me. The number of cases of pulmonary tuberculosis treated between 1897 and 1905 in the German sanatoriums for the working classes amounts to over 100,000, as may be seen in the following table :—

Number of Cases treated in German Sanatoriums for the Working Classes.[6]

—	1904.	1903.	1902.	1901.	1900.	1899.	1898.	1897.
Men	16,957	14,937	12,187	10,812	8,442	6,032	3,806	2,598
Women ...	6,520	5,211	4,302	3,844	2,652	1,666	1,104	736

[3] Quoted in Dr. Wilson Fox's "Diseases of the Lungs and Pleura," in second edition, p. 838.

[4] Pulmonary Consumption, by Dr. C. J. B. Williams and Dr. C. Theodore Williams, second edition, p. 327.

[5] I take this opportunity of expressing my gratitude for the information placed at my disposal to Dr. Jur. Richard Freund, director of the Imperial Insurance Department in Berlin; Professor von Pannowitz secretary of the Council of the International Association for the Prevention of Tuberculosis; Dr. Zacher, Imperial Privy Councillor, President of Senate in the Imperial Insurance Department; Herr Bielefeldt, Imperial Privy Councillor and President of Senate in the Imperial Insurance Department; and especially to Dr. A. Kayserling.

[6] Statistik der Heilbehandlung bei den Versicherungsanstalten und zugelassenen Kasseneinrichtungen der Invalidenversicherung für die Jahre 1900, 1901, 1902, 1903. Berlin, 1905, pp. 6-7.

The results of the sanatorium treatment of these individuals to date may be tabulated thus :—

Results of each 100 Cases treated in the Sanatoriums.[7]

Discharged fit to work in 1900.	Remained capable of full work at end of— 1900.	1901.	1902.	1903.	1904.
Men, 72	66	48	40	35	30
Women, 72	67	52	46	40	35

Discharged fit to work in 1901.	Remained capable of full work at end of— 1901.	1902.	1903.	1904.
Men, 77	70	53	45	38
Women, 77	72	60	51	45

Discharged fit to work in 1902.	Remained capable of full work at end of— 1902.	1903.	1904.
Men, 77	72	57	48
Women, 80 ...	76	62	54

The average duration of stay in the sanatoriums was 75 days and the average cost per patient was from £17 to £18.

Better results still have been obtained by the Prussian and Hessian State railway companies which have sent their employés to the German sanatoriums for the working classes.

Results obtained in Employés of Prussian and Hessian State Railways.

Year of treatment	1898	1899	1900	1901
Number of cases treated	217	354	429	532
Percentage of patients capable of full work in subsequent years	79% in 1899	83% in 1900	84% in 1901	84% in 1902
	63% in 1900	72% in 1901	72% in 1902	72% in 1903
	54% in 1901	61% in 1902	63% in 1903	63% in 1904
	45% in 1902	54% in 1903	57% in 1904	58% in 1905
	43% in 1903	49% in 1904	53% in 1905	

We see then that, viewed as a whole, every 100 cases treated in the German sanatoriums for the working classes provide at least 31 persons who are capable of work at the end of five years (not from their first symptom but after their discharge from the sanatorium) and that when the conditions are more favourable, as they are in the case of employés of the Prussian and Hessian State railways, out of each 100 cases treated, from 43 to 53 are capable of full work at the end of five years from the time they left the sanatorium. These results show that under present-day conditions treatment is more successful than it was before the advent of sanatorium treatment. At that time, as I have stated, 83 per cent. of Dr. Pollock's early cases were dead at the end of five years *from their first symptoms*, whilst the remaining 17 per cent. were probably more or less incapacitated.

A further argument in favour of sanatorium treatment is obtained from the duration of life of a German working man who does not go to a sanatorium, from the time that he begins to draw "incapacity pay." A German working man is entitled to draw pay from the insurance companies when he has been incapacitated by consumption for six months. It is found that of every 100 of such men between the ages of 25 and 29 years only 17 are alive at the end of one year from

[7] Loc. cit., p. 41.

the time they commenced to draw pay and only four are alive at the end of four years.[8]

It is, of course, true that this advance in the value of treatment is in part due to the earlier detection of the disease by means of Koch's bacilli and other methods, but so far as statistics are of value they show that sanatorium treatment has done much to add to the economic value of consumptives.

The successful results of treatment in the German sanatoriums for the working classes depend very largely on the facts that year by year a more careful selection of cases is made and that a large proportion of patients admitted have the disease in its early phases. It is sometimes said that the German statistics are not reliable and that one great fallacy is the (asserted) fact that many of the cases stated to be cured have never suffered from tuberculosis. In answer to this I need only state that business men like the directors of the Prussian and Hessian State railways are so satisfied with the results obtained by sending their employés to the insurance sanatoriums that during the last year or two they have established two sanatoriums of their own. In these sanatoriums tuberculin is used to establish the diagnosis whenever there is any doubt and the results obtained to date are practically the same as those which I have given above.

So far from thinking that it is impossible for us to approach the German results in England, I am convinced that these results would be much enhanced and that the permanency of the results obtained would be increased if the methods of treatment adopted in the German sanatoriums were changed. Many of these sanatoriums, as I have already said, are simply convalescent homes with liegehallen attached. The majority of patients are kept in the liegehallen for five or six hours a day but when they are within the buildings of the sanatorium they do not have a very free supply of fresh air. The buildings, it is true, are perfect but all the rooms are supplied with double windows and during the greater part of the winter the double windows are kept shut and only the fanlights are slightly open. To show the views of the physicians in these sanatoriums I would mention that some of them in the winter shut their bedroom windows at night and admit air into their bedrooms through a door leading into a sitting room, the window of which is kept partially open. The reason given to me for this procedure is that the climate in the neighbourhood of Berlin is so bad. It is interesting in this connexion to remember that many writers in England have said that it is impossible for us to obtain the same results as are obtained in Germany because the climate in Germany has so many advantages over our own.

The German sanatoriums for workers have so far failed in another respect. The arrangements for educating patients, whilst they are undergoing treatment, to a capacity for work have not succeeded, partly because of the liegehalle system and partly because the German working man refuses to do work which may possibly be remunerative to the institution. So far as I can obtain the facts, it would further appear that up to the present time the so-called agricultural colonies in connexion with these sanatoriums have also proved a failure. Some of us, I think, may expect too much from agricultural colonies on a large scale. Patients when they leave a sanatorium are often advised to spend the rest of their lives under open-air conditions and to avoid office work and the like. We must not forget the important part played in relapse by strain or that in open-air occupations, such as in the manual labour of farm work, there is much more strain and therefore more fear of relapse than in office work. Many patients cannot stand the fatigue involved in manual labour to which they have hitherto been unaccustomed and such patients, in the experience of men of much authority on the subject, do better and are more likely to remain permanently well if they return to office work, to which they are accustomed, under reasonable conditions of hygiene, than if they engage in pursuits which entail much muscular strain. Then, again, it has been found in Germany that many workmen previously trained to other businesses can never be trained to become remunerative employés in agricultural colonies.

When I am asked whether equally good or better results can be obtained in the well-to-do classes I would say that the answer depends almost entirely on the character and backbone of the individuals concerned. The treatment of consumption is mainly a question of commonsense and of pounds, shillings, and pence. A man of some means who has the disease detected in its early phases has better opportunities of being admitted *at once* to an efficient sanatorium than members of the working classes, and on leaving the sanatorium he has better opportunities of leading a suitable life under good conditions. Working men do not enjoy such good opportunities as the well-to-do but they are perhaps more likely to follow medical instructions to the letter, and consequently when their conditions are favourable they are a greater credit to the sanatorium method of treatment.

If we turn to the blunt question, Do the German insurance companies make or save money by the establishment and maintenance of sanatoriums? there is some difficulty in obtaining an answer which gives a true perspective of the financial results. The reason for this is that in Germany the whole question is approached from the statesman's point of view, with the ultimate object of eradicating tuberculosis. In England we approach the question from the philanthropist's point of view, with the immediate object of relieving the suffering of a certain proportion of the present generation. The German authorities recognise that they cannot restore many of those who are suffering from advanced tuberculosis, to a condition of lasting economic value, and they accordingly concentrate their energies on detecting the disease in its early stages, on arresting the disease whilst it is possible to restore the individual's capacity for work, and on preventing the spread of infection from those cases which are beyond permanent benefit. Such a system costs money and so far expenditure outbalances the ascertainable savings, but there can be no question that in 20 years the German nation will be able to prove conclusively the financial return of their present policy. Already there is an indication of the value of their methods. As is well known, every German workman with an income of less than 2000 marks a year is forced by law to insure against sickness. The workman pays two-thirds and his employer one-third of the necessary contribution. Any workman so insured is entitled to a certain rate of pay for a certain period of time if he is incapacitated from work by tuberculosis or other disease. For the first few years after the law was passed compelling insurance the amount of money paid out by the companies to those incapacitated by tuberculosis steadily increased. Sanatoriums for the insured have been established for eight years and during the last few years the amount of money paid out for incapacity for work due to tuberculosis of the lungs has begun to *diminish* so far as the companies connected with Berlin and its neighbourhood are concerned. The number of men per 1000 receiving money for incapacity to work through consumption has fallen progressively in the last three years from 231 to 216, and in women from 153 to 119 per 1000.[9]

Such results are most suggestive of eventual monetary

[8] L'Etat de la Lutte contre la Tuberculose en Allemagne. Memoir presented to the Paris Tuberculosis Congress, 1905, by the Central Committee for the Erection of Sanatoriums for Consumptives in Germany, pp. 34, 35.

[9] Verwaltungsbericht der Landes-Versicherungsanstalt Berlin für das Rechnungsjahr 1904, p. 30.

gain to the insurance companies when it is remembered that about 50 per cent. of those of the German working classes who die between 20 and 30 years of age die from tuberculosis. In Germany, as I have said, they do not look to immediate financial return and I would add that at present they do not count the cost. They regard, and properly regard, a sanatorium, not as an isolated thing to be used as a specific for consumption, but as a link, and as an important link, in the system which they have evolved for the eradication of the disease. They appreciate the fact that in dealing with the problem of tuberculosis among the working classes our chief aim must be the economic results, and that if good economic results are to be obtained only those patients who present early symptoms and signs of the disease should be sent to sanatoriums. They recognise that it is a foolish waste of money to send, as is done in England, working men suffering from every phase of tuberculosis to sanatoriums for varying periods and then to consider the task at an end. They recognise that suitable conditions of work must be found for the worker when he leaves the sanatorium and that adequate measures to prevent the spread of infection must be adopted not only in the sanatorium but outside it.

If sanatoriums for working men and women are to be a success in this country they must be used as a part of a systematic attempt to deal with tuberculosis on statesmanlike lines. Much good work is being done in France by the aid of dispensaries such as the Dispensaire Emile Roux at Lille.[10] There is not space for me to refer to this work here but it may be of interest to mention the main points of the system in force amongst the working classes of Berlin and its neighbourhood. Every working man (employed by others) who has an income of less than 2000 marks a year is compelled to insure against sickness or against incapacity to work. When such a man applies for relief he is medically examined. If his condition is such that the physician suspects the presence of pulmonary tuberculosis but cannot definitely diagnose it, the man is sent for six weeks to a convalescent home. Here he is kept under observation. If at the end of six weeks he is found to be suffering from tuberculosis he is sent to a sanatorium. If tuberculosis is excluded the man returns to his work. When a man applying for relief is found, either before he has spent a few weeks in a convalescent home, or after he has been kept under observation, to be affected with tuberculosis the following procedure is adopted. The man is advised to go to a sanatorium. If there should be no bed vacant at the time he waits his turn at a convalescent home. Hospital sisters inspect his home and set right any hygienic errors. *His whole family is examined at a dispensary.* If any members of it are found to be suffering from early tuberculosis they are sent to a sanatorium, whilst if any are in a suspicious condition they are kept under observation at a convalescent home until the diagnosis is clear. When a man is discharged from the sanatorium as fit for work, endeavours are made through a suitable organisation to find him such employment as may be compatible with his condition and previous training. A point of the greatest importance is that assistance is forthcoming for the families of those who are sent to a sanatorium, as without this the men would either not go to a sanatorium or would leave too soon. When a man is found to be suffering from consumption of such a stage that there is little hope of restoring him to a lasting capacity for work, steps are taken to educate him in elementary hygiene and to prevent him from infecting others. The same procedure is adopted with those discharged from sanatoriums as unfit to work. Such cases are given the option of going to special homes or of receiving considerable grants from the insurance companies for 52 weeks and then smaller grants which are supplemented by the Poor-law institutions. In this way consumptives in whom the disease is advanced are kept under observation till death. It is of interest to know that the German Government contemplates the introduction of a measure which will distinguish between those who are in receipt of support from the Poor-law through their own fault and those who are in receipt of support from the Poor-law through the effects of disease. For example, consumptives in receipt of Poor-law assistance will not be disenfranchised. Many societies, such as the German Red Cross Society, aid the insurance companies and Poor-law authorities in their campaign against tuberculosis by grants and by assisting in the necessary visiting and inspection. The insurance companies also make grants to the hospital dispensaries and to companies which are building healthy homes for the working classes. If a man refuses to allow his home to be inspected or his family to be examined he is refused any benefit, but refusals of this kind on the part of the working man are very rare.

I am assured by those who are in a position to know that this system works admirably in Berlin. Not only are those who are capable of restoration to work given their opportunity but the whole population has shown in recent years a great advance in healthy living. By this system the public have been taught the dangers of consumption and they realise in a way that the British workman does not how important it is that the disease should be treated in its earliest stages. Consequently by means of the educational value of sanatoriums and by means of the admirable system of examining the families of those affected, a very large proportion of the tuberculous members of the working classes have the disease detected in an early stage. The main idea of the Germans is that they are working for future generations rather than for those of the present generation who are afflicted with consumption to such a degree that their capacity for work cannot be restored for a sufficient length of time to yield satisfactory economic results.

The Germans regard the sanatoriums as an essential feature of their scheme, chiefly as an educational factor perhaps, but also as a means of restoring early cases to a full capacity for work. Could this system be practised without a large insurance fund behind it? Herr Bielefeldt,[11] whose authority is unquestioned, said in 1901: "The conviction may be expressed, after the experience of several years, that an effective battle against consumption, among the working classes, would have been altogether impossible without the workmen's insurance in Germany. By the support of the powerful pecuniary resources and the legal social regulations of this insurance, however, we will, we are certain of it, be victorious."

Is such a system possible in England without an elaborate scheme of insurance? Obviously money must be available for the purpose, but exactly how it is to be raised is, I think, a question for statesmen and actuaries rather than for physicians. An enormous amount of money is spent annually in this country on consumptives with comparatively little economic result. I believe that if the same amount of money were spent on German lines the economic results would be enhanced at once and in time the disease would be eradicated. Those who constantly say that any scheme on the German lines is impossible in England forget, I think, the power of the many organisations, some of them wealthy, which could be utilised if statesmen would elaborate some form of coöperation between existing organisations. For example, the friendly societies and trade unions and other registered provident institutions have a capital of nearly £165,000,000 and a membership of 18,000,000 persons.

[10] See La Lutte Antituberculeuse, February, 1903.

[11] Account of the Privy Councillor and President of Senate in the Imperial Insurance Department, Herr Bielefeldt, at the British Congress on Tuberculosis, London, 1901.

The following summary of registered provident societies and certified and Post Office savings banks in Great Britain and Ireland on Dec. 31st, 1903, may be of interest as showing the wealth of the industrial classes, exclusive of their contributions to many insurance companies, such as the Prudential Company. It is taken from the Report of the Chief Registrar of Friendly Societies, 1904. It must be remembered that there are many claims on this capital, and that it belongs to the thrifty working man and not to the poor or to the "unemployable."

—	No. of returns.	No. of members.	Funds.
			£
Building societies—			
Incorporated societies	2,062	587,049	51,250,068
Unincorporated societies	62	54,155	14,947,159
	2,124	601,204	66,197,227
Friendly societies, &c.—			
Ordinary friendly societies ...	6,924	3,059,107	15,877,330
Societies having branches	20,845	2,613,552	22,549,147
Collecting friendly societies ...	43	6,973,136	7,220,932
Benevolent societies	73	24,964	329,551
Working men's clubs	870	224,582	320,688
Specially authorised societies ...	124	77,383	586,660
Specially authorised loan societies	906	101,816	711,789
Medical societies	98	325,067	61,000
Cattle insurance societies	56	3,667	7,840
Shop clubs	6	10,618	1,181
	29,543	13,414 182	47,666,118
Coöperative societies—			
Industries and trades	2,086	2,091,978	43,404,299
Businesses	245	62,531	816,214
Land societies	129	17,133	1,149,408
	2,460	2,171,642	45,369,891
Trade unions	672	1,575,375	5,260,186
Workmen's compensation schemes	64	117,619	181,432
Friends of Labour Loan Societies	255	33,590	258,303
Total registered provident societies	35,103	17,913,612	164,933,157
	Banks.	Depositors.	Deposits.
Railway savings banks	17	56,027	5,024,146
Trustee savings banks (including investments in stock and special investment accounts)	223	1,687,661	59,352,927
Post Office Savings Bank (including investments in stock)	14,362	9,403,852	162,300,696
Total certified and Post Office savings banks ...	14,607	11,147,540	226,677,768
Grand total	49,715	29,061,152	391,610,925

Note.—Where returns are made to a date other than Dec. 31st the particulars at the nearest date available are given.

The Poor-law institutions spend, yearly, large sums on consumption (for example, one-third of the deaths from consumption in London take place in Poor-law infirmaries). Again large sums of money are spent on consumption by convalescent homes, consumption and other hospitals and dispensaries, and by many charitable bodies, such as the Charity Organisation Society, ladies' visiting societies, and institutions for the dying. In my experience, too, employers are often willing to give financial and other assistance to their workmen for the purpose of sanatorium treatment if such workmen have proved loyal and useful. There are, in addition, said to be some 600 sanatorium beds available in England. We might have, but at present do not have, assistance from such bodies as the Metropolitan Asylums Board.

In a condensed article of this kind it is impossible to deal adequately with the part that might be played in a general organised scheme by all these bodies and agencies to which I have alluded, but I think that hospitals, especially hospitals for consumption, might model their procedure on the line of what is done in Berlin so far as the detection of the disease in its early stages is concerned. I would say a word or two on the possibilities of the workmen's societies. In Germany the workmen forced the Government to deal with the question, for the insurance system was elaborated in direct reply to the criticisms of the Social Democratic party. In England the industrial classes are awakening to the necessity of action and they have realised that if action is to be taken the workmen must help themselves. Therefore I regard the National Association for the Establishment of Sanatoria for Workmen Suffering from Consumption, which is presided over by H.R.H. Princess Christian, as having initiated one of the most important movements of our time. I believe that this association, which owes its origin largely to Mr. W. G. Bunn, secretary of the Hospital Saturday Fund, has the remedy in its own hands if it can but attract the moderate support of philanthropists and if it associates itself in some organised way with other existing institutions and societies.

To take one example. Mr. Burnes, the secretary of the Hearts of Oak Benefit Society, has made an examination into the sickness experience for the past ten years of those members who died in 1904. Mr. Burnes found that each member who died from consumption before 40 years of age cost the society £17 17*s.* more than a member who died from some other disease before 40 years of age. In 1904 deaths from all causes were 2110; of these 377 died from consumption at average age, 40 years. Of the total (2110) 673 died under 40 years of age, of whom 33 per cent. died from consumption. On the basis of the German statistics it is probable that those who were restored to work by sanatorium treatment would in time provide, by means of their quarterly payments, not only enough money to balance the expenditure on themselves but a proportion of the expenditure on those whose capacity for work was not restored.

Let us take another example—that of the Post Office employés. In the years 1896–99 the loss per 1000 living in the general population of Great Britain and Ireland [12] was 1·3, whilst the loss per 1000 living in the Postal Service was 1·97, and yet Mr. Garland has shown that sufficient funds, for the efficient treatment (in sanatoriums) of postal employés who contract consumption, can be obtained if the employés will submit to a deduction of pay to the extent of less than ½*d.* a week, or of some 2*s.* a year. Over 30,000 employés have consented to such a deduction and the late Postmaster-General (Lord Stanley) arranged that the deduction should be made at headquarters and that anyone sent to a sanatorium should be entitled to six months' leave on full pay. There should be little difficulty in persuading the directors and employés of large industrial concerns, such as the railways companies, to follow the excellent example set them by the Post Office organisation.

These two instances are sufficient to show that the financial difficulties in England are not so formidable as might be thought. I think that the time has arrived for a Government inquiry into all the aspects of the subject. The question can be solved if there is coöperation between existing institutions and societies and if the working

[12] The Post Office and the Prevention of Tuberculosis, Mr. Charles Garland, THE LANCET, Sept. 14th, 1901, p. 725.

population will contribute a small weekly sum for the purpose.

I would therefore express my opinion, in answer to the request of the Editors of THE LANCET, that sanatoriums are essential to the treatment of tuberculosis and that, if properly used as an important part of a coördinated system, they are invaluable to a campaign directed towards the eradication of tuberculosis. If I am asked how a county authority or a private philanthropist can best spend money on those afflicted with consumption, I would answer that money would be best spent on coördinating our present forces and that no money should be spent on the erection of sanatoriums unless these institutions are to form part of a complete scheme such as I have briefly sketched.

What we lack at the present time is any scheme of coöperation between philanthropists and the societies of the working classes. We have no organised plan to deal comprehensively with the whole question with the ultimate object of eradicating the disease. If we are to have success we cannot continue without some central authority for tuberculosis. Our system to be of service must be perfected; cases must be detected in their early stages and dealt with; money or work must be provided for families when the breadwinner is away, and steps must be taken to prevent the spread of infection from advanced cases.

Brook street, W.

SANATORIUMS FOR CONSUMPTIVES.

BY F. R. WALTERS, M.D. LOND., M.R.C.P. LOND.,

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OWING to the absence of a descriptive name for the treatment adopted in open-air sanatoriums some confusion is often noticeable in discussions on the subject. Few medical men will be found to advocate a return to the warm room and shut-window methods of a generation ago; few will venture to dispute the value of any essential detail of sanatorium treatment. There is general agreement, in theory at least, as to how a consumptive should be treated; but there is not yet the same unanimity as to where the treatment should be carried out, whether in an institution or in the patient's own home. Those who are best acquainted with sanatorium methods are the first to recognise the difficulties of open-air treatment at home. The average home, whether middle class or artisan, is by no means ideal for the purpose; and it is usually expensive and sometimes impossible to make it suitable, to provide proper cross-ventilation and approximate freedom from dust and atmospheric impurities indoors, and convenient shelters and walks out of doors. Sanatorium treatment involves a reversal of ingrained habits usually shared by other members of the household, so that a change of surroundings for a time is distinctly advantageous, just as with a Weir-Mitchell case or a habitual inebriate. Hygienic treatment depends for its efficiency on the personal attention of the medical adviser. Supervision in the home is necessarily imperfect and for a number of patients well-nigh impossible. Take, for instance, the early visit of the day, when directions are given for the morning. Assuming that there are 50 patients to be seen in as many houses, and that these are five minutes' walk from one another, it will take well over four hours to give the patients the briefest possible personal directions, whereas these should be given at latest by breakfast time. In a good sanatorium it is usual for the medical officer to see each patient several times daily, to watch the effect of his walks on pulse, respiration, and temperature, to take the chief meals with him, and generally to keep in touch with him throughout the day, and although some of these duties might be delegated to a competent and specially instructed nurse, it would still be physically impossible for one medical officer to supervise a number of patients in their own homes.

Just as with hospitals for the poor, so with sanatoriums, there is an advantage in treating many patients together, as laboratories and apparatus required for one patient are equally available for a number, and greater uniformity as well as greater precision of treatment can be insured at less expense. This advantage is likely to increase rather than to diminish with the more general adoption of special tests and methods of treatment, such as the opsonic test and the treatment by tuberculin or by specially prepared sera.

When we turn for confirmation of these advantages to the results of treatment we are met with many statistical difficulties. There are no complete statistics of treatment in patients' homes, and in this country only recent ones of sanatorium treatment. The average duration of treatment, the proportion of early and advanced cases, the completeness of hygienic supervision, and other details are most variable, so that a comparison under similar conditions is not yet possible. In the official report for 1905 of the German Central Committee for the Erection of Sanatoria for Consumptives, the results of seven years are given, including in all 3420 cases which had been fully investigated. It appears that from 79 to 86 per cent. of those treated were still fully fit for work at the end of the next year, from 63 to 76 per cent. at the end of the second year, from 54 to 67 per cent. at the end of the third year, from 45 to 58 per cent. at the end of the fourth year, from 44 to 54 per cent. at the end of the fifth year, from 40 to 45 per cent. at the end of the sixth year, and 37 per cent. at the end of the seventh year.[1] These are the results of a course of treatment of less than three months on an average, which is insufficient to cure even an early case as a rule, after which the patients have mostly returned to the same conditions of life as those in which they were attacked. Taking these facts into account, the results are as good as can be expected, and much better in all probability than those of treatment at home. For really successful results early and prolonged treatment is needful, as well as suitable after-conditions; whereas it is notorious that in this country most patients, whether middle-class or artisan, usually present themselves when the disease is already extensive and the general health undermined, stay much too short a time, and then return to more or less unsatisfactory conditions of life. No wonder if there are many incomplete recoveries and many relapses. But how would this be remedied by substituting inferior hygienic conditions and increasing the difficulties of medical supervision? The proper remedy is to attack the causes of failure, to increase facilities for early diagnosis and treatment, to prolong the fresh-air stage, and to provide better after-care.

Judging by personal impressions and comparing ten years of out-patient work at a chest hospital with two or three years as physician to in-patients, there appears to me an overwhelming superiority in the latter department. Indeed, I have been sometimes tempted to regard out-patient treatment of consumptives as sheer waste of time. Turning to a different class, I have a fairly large and increasing list of gentlefolk who have undergone sanatorium treatment during the last five years and remain well and at work, whereas I scarcely remember a single instance of recovery in this country under treatment at home. I have met with several cases in which open-air treatment was attempted at home or in apartments previously to admission to the sanatorium, and have been struck with the difference in results. Such patients freely confess after a few weeks' sanatorium treatment that they had unintentionally wasted their time at home, that home treatment was quite a different

[1] In each case the higher figures represent the later results, which have been better year by year.

thing owing to the difficulties imposed by their surroundings, and that less progress was made in months at home than in weeks at the sanatorium. I have also had most flattering letters from medical men testifying to the educational value of sanatorium treatment; and this is not the least of the advantages conferred. I think, however, that these educational advantages should be extended to other members of the patient's household, and instead of excluding visitors absolutely, as is done at some sanatoriums, they should be encouraged to stay now and then at the sanatorium. This proceeding undoubtedly somewhat increases the difficulties of the medical director, but is likely to greatly reduce the opposition which the patient has to contend with on returning home.

Admitting, then, that institutional treatment is more satisfactory than home treatment during the active stage of the disease, what kind of institution should be adopted? Our chest hospitals and infirmaries have played a large part in reducing the mortality from consumption, but they are insufficient to give an adequate course of treatment to every patient who is suitable for admission, and they labour under the drawback of being mostly urban and provided with too little ground to permit of progressive walking exercise. If, then, we have to increase the accommodation it would best be done by opening sanatoriums in suitable country districts for pulmonary cases and others at the seaside for surgical tuberculosis. Some of our present convalescent homes are doubtless suitable for the purpose; but their beds are already overtaxed by a different class of applicants, and they would have to be reorganised to make them suitable for pulmonary convalescents. Such convalescents are still liable to feverish attacks and relapses in which they would require nursing. They have to be warned against occupations and amusements which are harmless to non-pulmonary cases, they require more daily medical supervision, and if they still have a cough with expectoration suitable rules have to be enforced. The mixture of pulmonary and non-pulmonary convalescents would be a mistake and each home should receive exclusively one or other kind. It is also better as a rule to separate the more serious cases from the slighter ones, as the former are depressing to the more convalescent and require more absolute rest and quiet and more constant nursing. In a large institution the separation could be effected by means of a separate block or building or group of chalets, but wherever possible the seriously ill should go to a different institution. The admixture of consumptives from different social classes is also not likely to work well in England. It is extremely doubtful whether as great a mixture as occurs in the Swiss cantonal sanatoriums would be tolerated in England. In the same way pauper cases would have to be separated as a rule from non-pauper working-class cases.

In the erection of sanatoriums for the poor it is not advisable to build massive structures of many storeys. Simple inexpensive buildings of one or two storeys, like the one at Holt, in Norfolk, or like some of our chalet sanatoriums, are more suitable and also better, because more like the cottages in which the patient should live when recovery is complete.

What objections are there to the erection of a sanatorium in any particular district? These are mostly sentimental and founded on ignorance. The erection of large sanatoriums in small villages abroad has led to a diminution in the mortality from consumption amongst the villagers, and there is absolutely no evidence that a properly managed sanatorium is a danger to the neighbourhood. People who talk of a sanatorium as being tenanted by a miserable herd of invalids are obviously innocent of any personal knowledge of the subject, as the patients at a sanatorium are proverbially cheerful and healthy looking. Any sanatorium which is an exception to this rule should raise grave doubts as to its proper management. It is, of course, a trial to be banished from home for months, but if visitors were more freely admitted this would be much less felt.

There is, however, another side to the prolonged course of treatment. It is justly argued that prolonged idleness is apt to foster lazy habits and to make the patient less capable of steady work. The remedy for this is to substitute other forms of useful occupation as soon as the patients are fit for it. Hard manual labour is unsuitable for something like two years after the breakdown, but many forms of light work are permissible as a rule, such as hoeing, raking, sweeping, pruning, poultry feeding, chopping up thin pieces of food, and some of the work in which hand machinery is used. The spare time should, however, be chiefly employed in education. At Dr. Weicker's sanatorium for artisans in Silesia and in some others the patients have regular courses of instruction in shorthand, foreign languages, cooking, and the like. Many of the applications of science and art to manufacture would also be permissible, such as designing, photography, the reproduction of designs, some methods of decorating pottery, and some of the applications of microscopy and chemistry. A conference of medical men with technical instructors in various branches of handicraft would probably bring to light many useful occupations open to convalescent consumptives. The chief point to bear in mind would be the substitution of delicate for laborious work, brains for brawn. That hygienic teaching bearing upon the disease itself would be given is taken for granted; but the addition of suitable technical teaching would make the sanatorium a valuable educational centre, would add to the happiness and usefulness of the inmates, and greatly diminish the difficulty in finding work for discharged patients.

The remaining objections to sanatoriums are really at bottom financial. Such institutions are of necessity expensive to erect and to maintain; there is also the maintenance of the family to be provided for and the support of both patient and family until remunerative work is obtained. It should be quite possible to erect a simple but satisfactory working-class sanatorium for £100 per bed, perhaps even less. Now that our wealthy classes are beginning to interest themselves in such matters there will probably be less difficulty in starting fresh sanatoriums if only the nation is convinced of their usefulness. The cost of maintenance will vary from 3*s*. to 5*s*. per head per day, according to size and management. Further expenses will be incurred for technical instruction, but this is really in the long run remunerative expenditure. It would be a mistake to cut down the staff, as this inevitably causes inefficiency. Even though some of the lighter duties are undertaken by the convalescent patients, as in so many of the German sanatoriums, the consumptive will never repay the cost of his keep by what he does while under treatment. The chief object in giving him duties to perform will be educational, not pecuniary. These expenses will have to be met for about six months on an average in early cases, from eight to 12 months in more advanced cases, unless there is a model village in connexion with the sanatorium to which patients can be drafted. At the Adirondack Cottage Sanatorium in America each patient is usually expected to spend the greater part of a twelvemonth under treatment; and the durability of the results is likely to be within limits proportional to the duration of treatment.

A supplementary society will be needed to look after the family; and if it were possible to transplant the latter to a model village a great step would be gained, as the patient could then join his family in suitable quarters when convalescent. Although celibacy is useful and in some stages indispensable, this could not indefinitely be enforced in the case of married patients, and the advantages of better

quarters and medical supervision of the family would outweigh the disadvantages of a non-celibate life. Submission to medical rules would be made a condition of admission to the model village. Gross breach of rules would entail dismissal. Many occupations unsuitable in towns would be quite harmless if transplanted to the model village. Possibly the coöperation of some of our large manufacturers could be secured for such a scheme. There would be less difficulty in starting purely rural occupations, such as the production of fruit and vegetables and poultry keeping. This is done in connexion with the Montefiore Home in New York, whose country branch supplies most of the fruit, vegetables, milk, and butter required by the urban hospital. A similar arrangement is contemplated at the Gateforth Hall Sanatorium, near Leeds. Much the same object is kept in view in the agricultural colonies which receive the convalescent lads from the Villiers-sur-Marne Hospital in France.

Apart from the model village, which is the logical outcome of sanatorium treatment, but which would take time and careful organisation to establish, it may fairly be argued that the actual cost of treatment in the sanatorium would be no heavier than the prolonged treatment in an infirmary which usually precedes death from consumption in our working classes. Dr. A. Newsholme has shown that the average duration of such treatment has lately been 221 days in the Brighton Infirmary. He makes out a strong case to prove that such segregation in the most infectious stage of the disease is an important cause for the immense reduction in the mortality from pulmonary tuberculosis in England and that where dispensary or home treatment is substituted there has been no such reduction. But if prevention is better than cure and the patient can be restored to working capacity for several years, and in many cases permanently, by sanatorium treatment, surely this will be at least as good an investment for the nation's money. Even supposing that on an average one half break down after five years and become a burden on the rates, we may fairly set against this the facts that if treated at home they would have infected fresh cases, and that for five years they have been maintaining themselves and their families. There is already reason to believe that the results of treatment are gradually improving, and with the more general use of special methods of treatment a much larger proportion of permanent recoveries will probably be obtained in future.

How the expenses of sanatorium treatment will best be met, whether by voluntary effort or by national or local subventions or all combined, must be decided by public opinion in the light of actual experience. Doubtless a large scheme of insurance against sickness, as in Germany, would be of the utmost value; but much has already been done in England by local effort and a number of county sanatoriums are already in working order, supported partly by voluntary subscriptions, partly by grants from various local authorities, and partly by payments from those under treatment. The Durham County Sanatorium, which was one of the first to be established, owes its existence to coöperation between local medical men and others with the working classes, for whom it is designed. Its funds are derived partly from payments of 3*d*. per quarter from the latter, partly from weekly payments by inmates who do not subscribe regularly, supplemented by subscriptions from the wealthier classes, and by subventions from district councils, boards of guardians, &c., at the rate of £75 per bed per annum. Regular subscribers have precedence for themselves and their families to the extent of their subscriptions. The latest outcome of this method is to be found in the Workers' Sanatorium about to be established in Kent.

Another class of sanatoriums is represented by the Liverpool parochial sanatorium at Heswall, which receives exclusively patients who have resided for a time in one of the Liverpool workhouses. This institution has been somewhat severely criticised owing to the small proportion of recoveries obtained; but such criticism is, in my opinion, unreasonable. The proportion of advanced and incurable cases is necessarily large; the patients are derived from those whose physique is very poor even apart from their disease; and if a convalescent leaves the building he almost necessarily returns to the least suitable kind of home. Such institutions have a claim to support for the lives they save, not so much amongst the patients as amongst the general population. They receive the patients from the poorest kind of homes which would quickly become centres for the spread of consumption. Even if none of their inmates ever recovered they would be worthy of support.

In conclusion, I would plead for a comprehensive scheme of treatment. If the thing is worth doing at all it is worth doing thoroughly and from the moment a consumptive is received in a chest hospital or sanatorium he should be provided for or assisted according to his needs, until he obtains remunerative employment under fit conditions or until he dies. When his disease is quiescent he should be drafted from the chest hospital to the country sanatorium and thence to the model village if his original home is distinctly unsuitable. If, on the other hand, the progress is unsatisfactory, he should be either kept in a special portion of the chest hospital or transferred to a special home in the suburbs or in some accessible country place. Transfers could take place between this home and the sanatorium according to need, so as to diminish the staff necessary for the latter and bring the patient nearer to his friends. Combined with these institutions should be societies for giving help to patients' families and advising them in matters of hygiene and to find work under suitable conditions for discharged patients; also to supply instructors in technical and other subjects of the right kind for those under treatment. All sanatoriums should be subject to inspection by a central body such as the one administering the King's Hospital Fund, which would make grants to the deserving institutions as in the case of the hospitals. There is no reason why every branch of such a comprehensive scheme should not be started simultaneously, even if only on a small scale to begin with, for each could help the other. The sanatorium, as Knopf has pointed out, is of incalculable benefit to the whole community for the social lessons it inculcates in hygiene and orderly living, in sobriety, cleanliness, and self-restraint. "It cures the consumptive whenever his case is curable and demonstrates the curability of the disease independently of climate. It makes the patient a hygienic factor when he returns to his former environment and demonstrates the preventability of tuberculous diseases. ..... It not only diminishes tuberculosis amongst the masses but makes their lot a happier one, furthering charity, humanity, and liberty."[2] And if the happy day should ever dawn when tuberculosis is extinguished the sanatoriums will be available as homes for the aged and infirm who crowd our almshouses and poorhouses and as convalescent homes for the overworked and underfed of our cities and towns.

Farnham, Surrey.

[2] S. A. Knopf, New York Medical Journal, Oct. 21st, 1905.

BRISTOL ROYAL HOSPITAL FOR CHILDREN.—At the annual meeting of the "ladies' auxiliary" in connexion with this institution it was reported that £479 had been collected for the hospital, whilst the "ladies' guild" had contributed a large quantity of bed-linen and garments for the patients.

HOSPITAL SATURDAY FUND AT EXETER.—The committee of this fund has distributed the £350 which were the result of this year's collections as follows: Royal Devon and Exeter Hospital, £165; West of England Eye Infirmary, £72; and Exeter Dispensary, £21; the remaining sum being allocated to the smaller medical charities and convalescent home. During the past 24 years £15,950 have been raised by this fund, of which £14,500 have been given to the different medical institutions.

A MEDLEY OF SURGERY.

BY PROFESSOR E. E. GOLDMANN.

[Professor Goldmann, Extra-Professor of Surgery in the University of Freiburg, in Baden, being recently on a visit to London, delivered at a meeting of medical men in the house of a friend a clinical address dealing with various interesting surgical points arising out of original and most ingenious observation. The lecture, which was fully illustrated by lantern slides, was listened to with great interest by those present and there was general regret expressed that Professor Goldmann had not made arrangements by which his remarks could have been heard at one of the learned societies. Professor Goldmann, through Mr. C. A. Ballance, has kindly placed his manuscript and illustrations at our disposal.—ED. L.]

FRONTAL SINUS.

Killian's operation for the radical cure of frontal sinusitis has created a demand for a more accurate method of determining the anatomical and pathological conditions of the frontal sinus. Intranasal examination by probe or by means of illumination may reveal important points as to the particular form of disease in the sinus yet fail to illustrate certain facts essential to the operator. The following method which I have applied in numerous cases during the last two years has proved most serviceable and has been welcomed as a valuable accessory in diagnosis to surgeons as well as rhinologists. An exact image of the frontal sinus is obtained by the x rays: the patient, lying on his stomach, is so placed on the photographic plate that the x rays pass through the skull in its antero-posterior diameter. By means of the cylindrical diaphragm designed by Albers Schonberg of Hamburg the best results are obtained. According to the age of the patient and according to the thickness of the skull a soft or semi-soft tube is used, the time of exposure varying from one and a half to two and a half minutes. The following plates illustrate how accurately the x rays enable us to determine the exact form, size, and extent of the frontal sinus in its bitemporal diameter. We can easily recognise its frontal, temporal, and orbital recesses and can even discern those frontal cells situated below the frontal process of the upper jaw-bone which are so frequently affected in disease of the frontal sinus. By a slight modification in the position of the patient the antrum Highmori and the naso-lacrymal duct appear on the plate. The x rays not only prove the existence of a frontal sinus but also show its symmetrical or asymmetrical development, its complete or incomplete division by a median septum or abnormal osseous lamina. In short, it supplies the surgeon with a mass of detail of importance to him before he enters upon the operation. By passing a probe into the frontal sinus and then exposing the skull in its bitemporal diameter good results bearing upon the depth of the frontal sinus may also be obtained. I have no hesitation in declaring that this method may likewise be of great help in diagnosing pathological conditions of the frontal sinus. In several cases suppurative conditions of the frontal sinus associated

FIG. 1.

Healthy frontal sinus with probe in right half.

FIG. 2.

Suppuration in left frontal sinus characterised by deep shadow; right half healthy.

with thickening of the mucous membrane and the periosteum were diagnosed, a deep opaque shadow marking the diseased half of the sinus. The operation subsequently corroborated our diagnosis. Although the x rays cannot take the place of the older and more complicated methods of intranasal examination yet improvements in their application and greater experience in reading the plates will undoubtedly tend to enhance the value of the new method (Figs. 1 and 2).

RADIOGRAPHY OF THE TRACHEA AND INTRATHORACIC GROWTHS.

Surgical operations on the neck and its viscera have multiplied considerably within the last two years. Most pathological conditions connected with intumescence of the diseased organ produce changes in the trachea affecting either its anatomical position or its interior. The laryngoscope fails in many instances to give full account of such changes as may at any time necessitate immediate surgical relief. Great progress towards more exact diagnosis of these changes was achieved by tracheoscopy, but tracheoscopy can only flourish in the hands of the experienced specialist. Even Killian and Wild have been obliged to confess that in children and old men their method has often proved impracticable. Bruns and his pupil Pfeiffer have recently published a method which is being used by all surgeons like myself working in districts where tumours of the neck, above all goitrous tumours, are frequent and give rise to great difficulties in diagnosis. The new method, which consists in taking an x ray photograph of the trachea, is applicable in all cases, causes the patient no discomfort, and supplies the surgeon with a bulk of diagnostic evidence which he requires. What we photograph is not the trachea itself but the air which it contains. The x rays being absorbed in a varied measure by the walls of the trachea, its surroundings, and above all things by the cervical vertebræ, the radiographed trachea stands out in marked contrast and in many cases is discernible as far as the bifurcation. The photographic plate is placed under the patient's throat; the diaphragm, of medium width, is so focussed that the converging x rays meet in the median line

FIG. 3.

Stricture of trachea due to compression by goitre from both sides. Dilatation, opposite *a*, above strictured section.

at a point corresponding to the sixth and seventh cervical or the second dorsal vertebræ in cases of intrathoracic growth. Soft tubes are used; the time of exposure is from two to three and a half minutes in adults and from one and a half to two minutes in children. This method shows the exact position of the trachea, the changes in its form and position produced by the tumours pressing upon it, and the form and locality of the tracheal stricture. In all my cases the result obtained by the x rays has been corroborated both by operation and previous tracheoscopy. It should be remarked that the photograph determines the trachea in its entire length, whereas by tracheoscopy only sections of the trachea are seen, great experience therefore being needed to form an adequate conception of the trachea as a whole. As very delicate contrasts of shadow may prove of supreme diagnostic value it is essential to examine the negative and not to rely upon proofs. The following plates (Figs. 3 and 4) may

FIG. 4

Radiograph of trachea and intrathoracic growth; trachea (white line starting at *a*) pushed to the left by goitre.

demonstrate how valuable this new method of examination is for determining the relations existent between intrathoracic growth and the trachea.

OPERATION FOR CARDIO-SPASM (ACUTE DILATATION OF THE ŒSOPHAGUS).

Cardio-spasm is a name recently applied by Mikulicz to a form of disease known to pathologists for many years as idiopathic dilatation of the œsophagus. It was styled "idiopathic" because no immediate mechanical or pathological cause for its formation could be found—even after careful post-mortem examination. Oddly enough, where cancer is associated with cardio-spasm the growth is found above the dilated portion of the œsophagus. The seat of the trouble is usually confined to the lower two-thirds of the gullet. It varies in dimensions. In advanced cases the sac may hold one litre of fluid. The diaphragm divides the dilated portion of the œsophagus into a thoracic and an abdominal section. As a rule, the mucous membrane of the œsophagus is in a condition of chronic inflammation and at times shows multiple ulcers on its surface. In accordance with the size of the sac the condition of the muscular coat varies, showing hypertrophy in one case and atrophy in another. Since the disease has become the subject of more careful clinical study and since our methods of its diagnosis have been more perfectly developed great attention has been paid to its etiology. A review of the literature on the subject tends to prove that various causes may produce it. It seems beyond doubt that œsophagitis combined with a primary disturbance in the mechanism of the cardiac functions is at the root of the trouble. Physiological

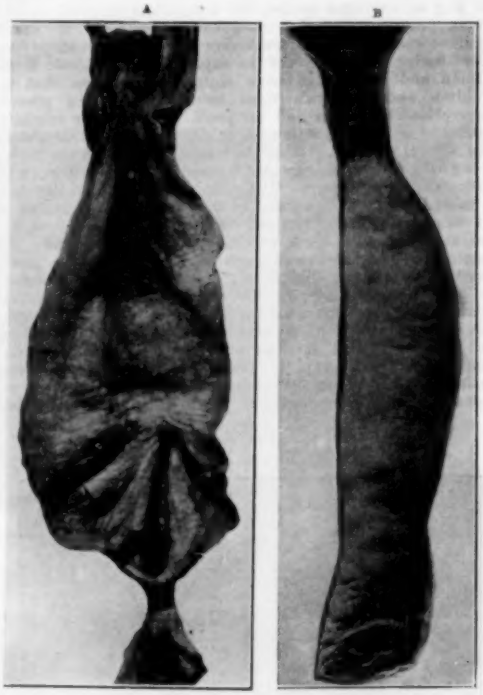
inquiry in the mechanism of deglutition has proved that mechanical as well as nerve influences affect the opening and closing of the cardia. Heightened intrathoracic pressure may open the cardia. Reflex irritability, on the other hand, arising from the deglutition of irritating substances or from the presence of inflammatory secretion, may tighten the cardiac ring. Without peristaltic movement of the œsophagus fluids are swallowed, whereas solid substances pass through the œsophagus by means of peristaltic movements of the muscular coat. It is of secondary importance to the practitioner to know from which special cause cardio-spasm arises as long as he bears in mind that the obstacle is situated in the cardia and not in the œsophagus. The clinical symptoms are so marked that diagnosis is easily established. Cardio-spasm begins, as a rule, in early age. Sometimes it arises suddenly from traumatism. In other cases the onset is a gradual one and begins with difficulty in swallowing fluids; a dull pain in the back is complained of. As the disease advances retention and, finally, regurgitation of decomposed undigested food take place. It is easy to differentiate between organic and functional stricture. Greater difficulty is encountered in deciding between cardio-spasm and diverticulum of the œsophagus. Œsophagoscopy and radiography are a great help. In a typical case of cardio-spasm the wide sac and the loose walls of the widened œsophagus are easily seen by means of the œsophagoscope. Especially after filling the sac with bismuthum the radiographic appearance of the widened œsophagus is most characteristic. It is of importance to radiograph the patient in various positions, the most favourable one being that in which the x rays pass from left forwards to right backwards. Treatment of cardio-spasm has hitherto been most unsatisfactory. In an early stage local treatment with from 3 to 5 per cent. solution of nitrate of silver may prove beneficial. But as soon as the dilatation produces symptoms of retention mechanical treatment is imperative. Dilatation of the cardia with bougies passed from above or backwards through an artificial opening of the stomach is ineffective. Gastrostomy gives no relief. The best results have been achieved by forced dilatation according to a method first described and applied by Mikulicz.

In my case of 12 years' standing which affected a young man, aged 23 years, who was in a condition of general decline I proceeded as follows. By an incision carried along the left hypochondrium the abdominal cavity was opened. Parallel to the large curvature of the stomach I incised the stomach at such length that I was able to pass my hand into the cavity. Yet I could not reach the cardia with the tips of my fingers. I therefore passed a tube into the stomach along the œsophagus and directed its end towards the stomach wound. The tube was then bisected in its long axis and the ends of a curved forceps sutured to the rubber flaps of the tube. In retracting the tube the forceps entered the cardia. Now, I opened the forceps so far that its handles were from five to six centimetres apart. By this means the cardia was forcibly dilated. This was done four times and each time the dilatation of the cardia took place a gurgling sound of air passing through the œsophagus into the stomach became audible. After removal of the instruments the stomach and abdominal wall were sutured. Complete recovery took place. It is now 15 months since the operation has been performed. The patient, who previously to the operation was obliged to evacuate his œsophagus twice a day, has never again had symptoms of retention. He has put on 25 pounds in weight and feels perfectly well. Six cases of advanced cardio-spasm have already been subjected to the method described and have done well. Until surgery of the œsophagus has made greater progress it seems more than doubtful that Rumpel's advice to excise the dilated portion of the œsophagus is practicable. (Fig. 5.)

PLASTIC OPERATION FOR URETHRAL STRICTURE.

The excellent results Mollière in France and Koenig in Germany have achieved in treating urethral stricture by excision and primary end-to-end suture of the divided urethra have established the undisputed and pre-eminent value of their method. It has been restricted to cases in which the stricture does not exceed the length of four centimetres, yet various authors have already published instances in which successful union of the urethra has been accomplished although from seven to eight centimetres of the strictured urethra were removed. In most cases of this nature the surgeon has been obliged to resort to plastic operations, either using grafts of skin, mucous membrane, or giving preference to the autoplastic more or less complicated methods of Guyon, Lhungren, and Ekehorn. By applying such methods the benefit of a quick recovery and a complete regeneration of the divided urethra has been lost. In recent years important facts in connexion with the anatomical structure and physiological qualities of the urethra have been brought to our notice. These form the foundation of a new method I first practised on the dead subject and then applied successfully even in cases where the stricture ranked from four to eight centimetres in length. The facts I refer to are the great elasticity

FIG. 5.



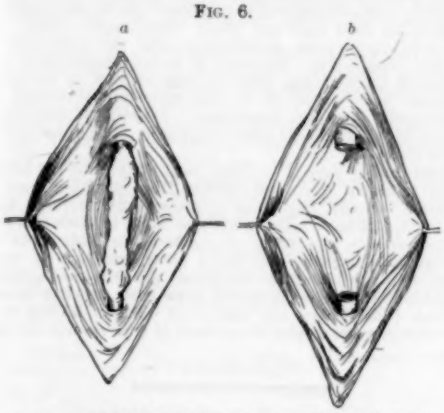
A, Specimen from the Museum of St. Thomas's Hospital, No. 912. B, Specimen from the Museum of the Royal College of Surgeons of England. No. 2290A. Both specimens belonged to patients who had suffered from regurgitation of food for many years. They demonstrate a condition of idiopathic dilatation of the œsophagus.

of the urethra, its regenerative powers as proved in the remarkable experiments of Ingiani, the plasticity of its epithelial lining, and the peculiarity of its blood-supply. I place great stress upon the last point which as far as I can see does not figure in any one of our text-books on operative surgery. By injecting the dorsal vessels of the penis with an emulsion of bismuthum and oil and by radiographing specimens thus prepared I have been able to corroborate a fact first demonstrated by Foster, that the dorsal vessels of the penis supply the cavernous tissue of the urethra with blood and that there is practically no communication between the cavernous bodies of the penis and urethra (see Fig. 8). Hence, we may dissect the whole of the bulbous urethra from the penis without incurring the risk of producing gangrene.

My method of procedure is as follows. Before dividing the urethra the whole of the strictured part is carefully separated from the surrounding tissues, great care being taken not to injure the albuginea. After excision of the stricture the two ends of the urethra are dissected from the penis at such length that an end-to-end suture may be

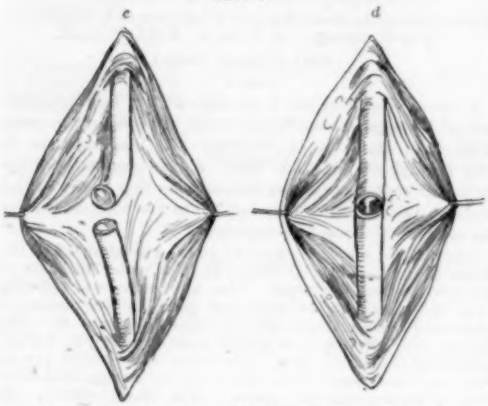
performed with ease. (Figs. 6 and 7.) Of course, the whole method should be modified according to the nature of the case. In some instances it will be advisable to use an oblique line of division in preference to a transverse one. Then, again, it may become necessary in exposing the pars nuda of the urethra to ligature the arteria bulbosa, the most constant of the urethral vessels. Even if due to the length of the stricture primary union is questionable, the mobility

FIG. 6.



a shows area of strictured urethra exposed and *b* shows healthy ends of the urethra after excision of stricture.

FIG. 7.



c shows ends of urethra dissected from the penis and *d* shows the end-to-end suture of the urethra.

of the urethra, such as I have described, will be a great help towards plastic operations of any kind and will accelerate complete recovery. I suture the urethra with catgut, taking care to extend the thigh at the hip-joint whilst suturing the urethra. As in Beck's operation for hypospadias, it may happen that in cases of long stricture the mobile urethra induces the penis to curve downwards whenever it is in a state of erection. In my first case, in which eight centimetres of the urethra were removed, this condition prevailed for from five to six months and then disappeared entirely. To all appearances the elasticity and the regenerative powers of the adult urethra are greater than those of the infant. All particulars as regards the technique of my operation and the after-treatment are to be found in my paper on the subject which was published in Bruns' *Beiträge zur Chirurgie*.

RELATION OF CANCER CELLS TO BLOOD-VESSELS AND DUCTS.

For several years I have been engaged in histological research concerning the relation of malignant growths to vessels and ducts. I felt that new facts could only be revealed by applying a new method of examination. The elastic tissue being the characteristic structural element of the blood-vessels I considered it essential to give it my special attention. By applying the beautiful staining methods of Taenzer and Weigert I discovered the important and interesting fact that elastic tissue amongst all others is least and last affected by the invading growth. Hence it becomes

FIG. 8.

Plastic operation for stricture: injection of cavernous urethral body from dorsal vessels. The black part illustrates the injected fluid.

possible to trace with great precision the various changes malignant growths produce in vessels and, generally speaking, in all channels surrounded by elastic bands. I refer you to the microscopical specimens which I have arranged for your inspection and confine myself to a brief summary of the results of my investigation. Even in the earliest stages of sarcoma as well as carcinoma pathological conditions of the blood-vessels are apparent. On the whole, they are exactly alike in sarcoma and carcinoma and are found both in the primary tumour and its secondary deposits. Whilst the veins show extensive and widely spread degeneration, the arteries, even the smallest, may show no change whatever, confirming Virchow's saying that "the arteries act as isolators of pathological processes." Three distinctly different forms of disease are found in the affected veins. In the one case the vein is completely occluded by a mass of tumour cells. A marked difference between sarcoma and carcinoma exists in this form of disease. In carcinoma the tumour thrombus is organised, a complete vascularised stroma dividing the groups of cancer cells. The thrombus has all the characteristics of the primary growth. Thus in cases of scirrhus the connective tissue predominates. On the other hand, the sarcoma thrombus shows no, or merely the early, signs of organisation. A well-defined stroma is wanting. In a second series of cases the aperture of the vein is patent but the growth has invaded its wall, proceeding intramurally towards the endothelial lining. As the growth increases in volume the aperture of the vein is pushed on one side and is finally closed. In such cases tumour cells never enter the circulation. In a third series instances are seen when even in the earliest stages of the disease the tumour breaks into the vein. Neither in cancer nor in sarcoma is this invasion of tumour cells into the blood current followed by coagulation of the blood. Preparatory to the invasion of cancer cells round cells may infiltrate the walls of the vein and effect similar changes to those which have already been described in the blood-vessels. Pathological conditions in the vein may be classified as simple endophlebitis in the one and as endophlebitis carcinomatosa in the other group of cases. Arteries may likewise be the seat of disease. With the exception of those cases in which tumour cells break through the wall of the diseased vessel the area of invasion is limited to the outer and middle coat of the artery, producing merely a condition of peri-arteritis. This difference between artery and vein is due to the fact that the cells proceed along the vasa vasorum and not along the lymphatic into the coat of the blood-vessel. In veins the vasa vasorum end under the endothelial lining, whereas in arteries they do not penetrate beyond the outer layers of the muscular coat.

Mechanical conditions consisting in the peculiarity of the nutrient vessels in malignant growths explain why veins sooner than arteries become the seat of disease. Purely mechanical conditions are also at the bottom of the peculiarities prevailing in primary and secondary growths of lymphatic glands, liver, lungs, and kidneys. Generally speaking, malignant growths are limited to the infected organ whenever its cells find ample space and open channels

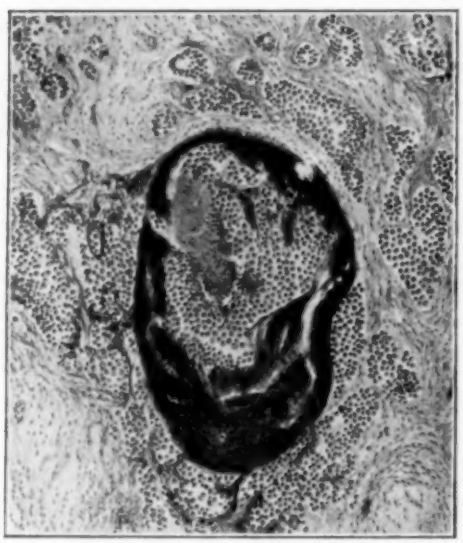
for their distribution and spread. The portal capillaries in the liver, the glomeruli in the kidneys, for instance, may serve as a barrier which excludes tumour cells from the general circulation. As Weigert has put it: "In malignant growths one system of capillaries shields the other, serving

FIG. 9.

Sarcoma cells invading wall of a small bronchus.

as a kind of filter to the rest of the body." Any channel passing through the area of cancer may become the means of spreading the growth. I have given special attention to the finer ramifications of the bronchi, mammary ducts, bile-ducts, and hair follicles. (Fig. 9). In all these

FIG. 10.



Cancer cells invading a mammary duct.

organs lymphatics pass through their various muscular and fibro-elastic coats and end immediately below the epithelial lining. These lymphatics are the media through which the tumour cells pass in invading the duct walls. We therefore find the cancerous deposits penetrating up to the epithelial lining. The membrana propria and the epithelial lining form a line of defence for the aperture of the duct for a long time. In many cases the cancer cells never enter the duct, but when they do nothing stops their growth and spread along the whole length of the duct system. (Fig 10.) In connexion with such cases I must mention two most interesting and important facts. The epithelial lining of the ducts may remain unchanged under the cancerous thrombus, thus proving that the so-called cancerous infection of epithelial cells does not exist. Then, again, when the duct is blocked by the cancerous growth the tumour cells very soon degenerate. The cause of this degeneration is the absence of blood-vessels, since an organisation of the duct thrombus, such as occurs in the cancerous thrombus of blood-vessels, does not take place. Necrosis of cancerous thrombi in blood-vessels and lymphatics is the exception and in ducts the rule.

I must confine myself to these bare outlines of my histological research. I must refrain from entering into a discussion of the important question why sarcoma and carcinoma, although histologically so alike in their relation to blood-vessels, yet differ so markedly in their mode of generalisation. These and many other questions in connexion with the biology of malignant growths are engaging my attention at present and I hope that on some future occasion I may have the honour of communicating and demonstrating the results of my work in this respect to you again.

(To be concluded.)

A CASE OF OCHRONOSIS.

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With a Note on the Relationship of Alkaptonuria to Ochronosis, by A. E. GARROD, M.D. OXON., F.R.C.P. Lond.

(With Coloured Plate.)

A SHORT *résumé* of our knowledge of this rare condition and of its apparent association with alkaptonuria in some cases from the pen of Professor W. Osler appeared in THE LANCET of Jan. 2nd, 1904. A conversation with the author of that paper at the Leicester meeting of the British Medical Association in July last led to the identification of the nature of the case here reported.

The patient, a woman, aged 47 years, was admitted to the wards of the Leicester Infirmary in 1895, under the care of the late Dr. Charles Cooper. That gentleman was suffering from bad health at the time and gave me permission to make any investigations into the case I thought fit. The patient was suffering from a large ulcer on the right leg and discolouration of the skin. The ulcer had existed for 12 years and had been continuously dressed during that time with a strong carbolic lotion. The discolouration had existed for five years. No history of any similar complaint in her family could be obtained. The face was coloured a dark brown. Inside the lips were patches of blackish discolouration. The ears presented a bluish appearance. The hands also showed a bluish discolouration. (See Figs. I. and IV.) There was a small bluish-black pigmented patch on each conjunctiva (see Fig. II.) about midway between the inner canthus and iris, when the iris was central. There were signs of a cavity at the apex of the right lung and the patient was much emaciated. Her mother had suffered from pulmonary tuberculosis. The urine was almost black in colour; it gave a dark brown precipitate with liquor ferri perchloridi and a slight white precipitate with bromine water. No sugar or copper-reducing substance was present. The urine was not of the same colour every day. Gangrene of the toes came on and the patient died in a few days from exhaustion, there having been no material change in the symptoms.

Post mortem, the right lung had a dry cavity at the apex. The suprarenal bodies were hard and dark in colour. The rib cartilages were stained bluish-black; the colour was more marked in the central area than at the periphery. The cartilages of the ears were bluish-black. The intervertebral cartilages were not examined. The patches of pigment in the eyes were seen to be due to a deposit of pigment in the superficial layers of the sclerotic. The note made at the

time was that microscopically the colour of the cartilages was due to "ordinary fine granular pigment."

Diagnosis from necropsy.—Tuberculosis of lung and disease of adrenal glands (Addison's). The colour of the urine was considered to be due to carboluria.

Coloured drawings were made during life of the superficial appearances, and microscopical preparations of the skin and cartilages were made and also of the suprarenal glands. The following is a description of their present appearances by Mr. E. H. Shaw of St. Bartholomew's Hospital:—

"*Section of ear.*—The skin is normal, no pigment being seen. The cartilage is pigmented throughout its substance, the colour being darkest externally, especially in the perichondrium (Fig. V.).

Section of skin of finger.—The epithelium shows the ordinary structure and arrangement of a skin surface. There is no pigmentation of the cells of the Malpighian layer. In the true skin there are some irregular masses of fibrous tissue in the form of broad bands. These bands cross and interlace with one another and they are of a dark-brown colour in the central part. The bands are pure fibrous tissue; no striation or nuclei are visible. The pigment is confined to these bands, it is not granular, and is evenly distributed through their substance" (Fig. VI.).

Description of coloured plate.—The appearance of the patient is well shown in the illustration. The face (Fig. III.) is very dark and bears a striking resemblance to a marked case of Addison's disease. Fig. I. shows the pigmentation of the deep layers of the skin in the finger and beneath the thumb nail, and Fig. IV. that of the palmar surface of the same hand. The patch of pigment in the sclerotic is shown in Fig. II. The pigmented cartilage of the ear can be seen in Fig. III. shining through the integument. Its appearance is, I believe, not exaggerated in the slightest degree. The microscopical appearance of the cartilages of the ear is shown in Fig. V. This section has been rather deeply stained with hæmatoxylin and consequently the most deeply pigmented layer of cartilage (Fig. V., *s.l.*) appears rather lighter than the less deeply (Fig. V., *d.l.*), the exact opposite of its appearance in the unstained specimen. Particular attention should be paid

TABLE GIVING PARTICULARS OF ELEVEN CASES OF OCHRONOSIS.

Case.	Author and reference.	Sex and age.	Colour of skin.	Other parts coloured.	Urine colour and reactions.	Other diseases.	Length of illness.	Illustrations in report.	Microscopical details.
1	Virchow: Virchow's Archiv, 1866, Band xxxvii., p. 212.	M., 67.	No description, presumably unaltered.	All cartilages.	Clear; no account of reaction.	Aneurysm, ascites, hydrothorax, and arthritis deformans.	?	Coloured pictures of blackened cartilages (macroscopical).	Brown colouration of ground substance; granular pigmentation of cartilage cells.
2	Boström: Virchow's Festschrift, Band ii., 1891, p. 177.	F., 44.	No reference.	Cartilages ebony black; also spots on valves and endocardium of heart (brownish grey).	No reference.	Strangulated umbilical hernia.	?	None.	Pigment generally distributed in ground substance of cartilages; granular in cells.
3	Hansemann: Berliner Klinische Wochenschrift, 1892, Band xxix, p. 660.	M., 41	No alteration.	Cartilages of ribs, sterno-clavicular, intervertebral, &c., inky black.	Black; no reduction of copper; no homogentisic acid. *Not alkaptonuria* (Langstein).	General œdema and aneurysm of the left ventricle.	18 years.	None.	Langstein, Hofmeister's Beiträge, Band iv., p. 145, on Urine; also Zdarek, ibid., p. 378.
4	Helle: Virchow's Archiv, 1900, Band clx., p. 148.	F., 36.	No alteration.	Cartilages of ribs jet black; cartilages of larynx and trachea only coloured in periphery.	No notes.	Peritonitis and ruptured tubal pregnancy.	?	Microscopical appearances of cartilages and lymphatic glands.	Fine granular pigment in ground substance.
5	Ibid.	F., 62	No alteration.	All cartilages.	No change.	Chronic ulcer of leg and mitral valve disease.	Many years.	As above.	Same as above.
6	Hecker and Wolf: Festschrift des 50 Jahr. Best. d. Stadt Krankenhaus zu Dresden, 1899, p. 325.	M., 73.	A dun ash colour, brownish in places.	Patch on sclerotics; all cartilages; dura mater in spots.	Brown, becoming black on standing; no sugar or albumin. *Not alkaptonuria*	General arterio-sclerosis, softening of cerebellum, myocarditis, stenosis and inefficiency of aortic valves, arthritis deformans, and osteo-malacia.	Melanuria 11 years.	None.	General pigmentation of ground substance of cartilage; granular also in patches; granular in dura mater.
7	Albrecht: Zeitschrift für Heilkunde, 1902, Band xxiii., p. 366.	M., 47.	During life pale (*blass*). Post mortem, no marked pigmentation.	Rib cartilages; chordæ tendineæ of the heart.	Dark, reduces copper; all reactions of alkaptonuria except homogentisic acid ? *Alkaptonuria.*	Pulmonary tubercle.	?	None.	Zdarek, ibid., p. 379, on Urine. Microscopy nil.
8	Osler: THE LANCET, Jan. 2nd, 1904, p. 10.	M., 57. Living.	Coal-black on the nose and cheeks; patches on sclerotics; ears blue-black.	Spots on the back of the hands.	Clear when passed, becoming black on standing. *Alkaptonuria.*	Anæmia; weak, irregular heart; and Heberden's nodules.	More than 10 years.	None.	Still living.
9	Ibid.	M., 49. Brother of Case 8.	Normal; patches on sclerotics.	Ears showed blue-black through the skin; no post-mortem.	*Alkaptonuria.*	Died from pneumonia.	—	None.	None.
10	Ogden: Zeitschrift für Physiologische Chemie, 1895.	? Living.	—	Pearly grey inside concha.	*Alkaptonuria.*	?	?	?	?
11	Pope: Present case.	F., 47.	Face brown; patches on sclerotics.	Rib cartilages blue-black; ears blue; inside of lips black patches.	Black. *Not alkaptonuria or true melanuria.*	Chronic ulcer of leg, phthisis, and sclerosis of adrenals.	Five years.	Superficial and microscopical appearances.	Fine granular pigment in cartilages; pigment in the white elastic tissue in the skin but not in rete Malpighii.

to Fig. VI. as this is the only section of the darkly stained skin that has yet been made. If anyone will take the trouble to compare it with a section or drawing of one from a case of Addison's disease, the difference in the site of the deposited pigment will at once appear. In the present section it entirely appears in the fibrous bands (Fig. VI., *f.t.*) and to me, and possibly to others, brings to light for the first time the extent of this layer, acting as a differential stain for this tissue, while in Addison's disease it appears, as does the normal pigment in the coloured races of mankind, as a very thin deposit in the deepest layer of the rete Malpighii (*r.M.*).

This case is the eleventh reported of this disease and the first from the British Islands. I present in tabular form short abstracts of all the former cases. It will be seen that all these cases had black colouration of cartilages. Five cases had black urine and two of these were alkaptonuric. In two other cases of alkaptonuria where there are records of post-mortem appearances, reported by Fürbringer[1] and Moraczewski,[2] no blackening of the cartilages is mentioned. In none of the cases except the present one is there any record of abnormal appearances in the adrenals. Four cases had patches of pigment on the sclerotics. Three only had marked discolouration of the skin.

I think it clear that the condition, for it hardly amounts to a disease, is one that is associated with the degenerative period of life, for though by the mere tale of years some of the patients had hardly passed middle age they had almost without exception suffered from wasting disorders or diseases which had profoundly affected the general body metabolism. Some of the observers consider that the pigment is only deposited in tissue altered by disease. The present case does not bear this out and it has been, moreover, opposed by Heile.

It seems probable that the fibrous tissues, cartilage included, are, under conditions not at present clearly understood, able to act as a filter and to retain a certain pigment which is circulating in the blood, of the origin of which we are also ignorant. It is not likely that many cases where deep skin pigmentation or melanuria was present have escaped notice and record. In those, however, where the pigmentation is confined to the cartilage and the urine is clear such oversight is more likely to occur. It is to be hoped that any future case will be most carefully examined during life, it being most important thoroughly to determine the condition and reactions of the urine and blood. Professor Osler has suggested that as two of his cases occurred in brothers this may turn out to be a family disease. The family history, therefore, of all cases of both ochronosis and alkaptonuria should be inquired into. The fact that the present case was not entirely under my own care must be the apology for what I feel to be a somewhat imperfect record. I cannot conclude without expressing my thanks to Professor Osler for drawing my attention to the real nature of the case and to Dr. Garrod for valuable advice and bibliography. The latter has kindly written the following note which adds much to the value of the present paper.

Note on the relationship of alkaptonuria to ochronosis by Dr. GARROD.—The question of the relationship of the very rare conditions ochronosis and alkaptonuria is a very interesting one. The existence of such a relationship was first suggested by Albrecht. The urine of his patient (Case 7), who had the blackening of cartilages which constitutes ochronosis, was brown when passed, darkened on standing, and reduced Fehling's solution with the aid of heat and ammoniacal solution of silver nitrate in the cold, just as an alkaptonuric urine does. However, Zdarek failed to extract from it homogentisic or uroleucic acid to the presence of which the phenomena of alkaptonuria are due. Osler has since described a pigmentation of the ears, conjunctivæ, and skin, such as was observed in Albrecht's case, in three middle-aged men (Cases 8, 9, and 10), who have long been known to be alkaptonuric; and although no opportunity has presented itself of examining their cartilages there is every reason which external indications can afford for believing that the cartilages, and at least those of the ears, are deeply pigmented and that they may rank as examples of ochronosis. On the other hand, in such accounts of necropsies on alkaptonurics as are available there is no mention of blackening of cartilages, and although alkaptonuria is a life-long condition young subjects exhibit no surface pigmentation. In the cases of ochronosis recorded by Hansemann and by Hacker and Wolf (Cases 3 and 6) dark urine had been passed for many years. Langstein has shown that the urine of Hansemann's patient gave none of the reactions of alkaptonuria and in the case of Hacker and Wolf, as in the present case, the urine had no reducing properties, a fact which practically excludes alkaptonuria. It is most desirable that in future cases of ochronosis the fresh urine should be examined from this point of view. At present the evidence seems to show that among the few recorded cases of ochronosis in which black urine, or urine which blackened on standing, was passed, some at least were not examples of alkaptonuria. On the other hand, there are very strong grounds for believing that in later life alkaptonuric subjects tend to develop the characteristic pigmentation of cartilages; in other words, that alkaptonuria is *a* cause, but not the *only* cause, of ochronosis.

[1] Berliner Klinische Wochenschrift, 1875, Band xii.
[2] Centralblatt für Innere Medicin, 1896, Band xvii., p. 177.

A CASE OF OPERATION ON THE VESTIBULE FOR THE RELIEF OF VERTIGO;

TOGETHER WITH A DESCRIPTION OF THE FLAP EMPLOYED IN ORDER TO OBTAIN A BETTER VIEW OF THE PARTS DURING OPERATION; WITH REMARKS ON THE HISTORY OF THE OPERATION.

BY RICHARD LAKE, F.R.C.S. ENG.,
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THE patient, a woman, 29 years of age, had been for some time absolutely deaf on both sides. Both ears had been operated on several times for the cure of suppurative otitis, the right more frequently than the left, with an eventually successful result on the right side, but the left was still liable to relapses. She had been under my care for long periods during the past nine or ten years, although none of the operations alluded to had been performed by me. During the past four years she had suffered so severely with bilateral aural vertigo that in walking she described, as it were, a series of curves alternately to the right and left, but with a greater tendency towards the left. She was extremely anxious for relief, and it may be noted that it was this case which three or four years ago first suggested to me the possibility of relief by operation, though, being as she is the breadwinner of the family, with a father frequently out of work, she was unable to come into the hospital until the early part of last year. The question which needed elucidation was as to which side caused the greatest trouble and after due consideration it was decided to operate on the right ear, as one was under the impression that the right titubation was due to irritation of the left external semicircular canal. And inasmuch as we believe the sense of location not to be well developed in deaf-mutes one hesitated to remove the peripheral organ of equilibrium on both sides, the more so in view of the serious results this procedure has on the lower animals.

The patient was admitted into the hospital and an operation was performed on May 2nd, 1905, with the assistance of Mr. R. S. Cocke and Mr. W. H Bowen. A flap was formed in the following way. A scalpel was inserted into the meatus, with its edge directed forwards and upwards in such a way that the heel of the edge of the blade lay between the tragus and the commencement of the helix, the rest of the blade being directed between the junction of the anterior and superior walls of the meatus, in which direction the meatal wall was divided down to the bone (see arrow in Fig. 1). On the knife being withdrawn the incision was carried upwards, close to the helix, until the upper border of the insertion of the concha to the head was reached; it was then carried backwards and downwards with a bold sweep, following much the same direction as is usual in a post-aural operation, but without bringing the lower part of the incision materially forward (see Fig. 1_{**}). The ear and external meatus were then rapidly dissected out and turned downwards, being, as it were, unrolled, and laid on the tissues of the neck, below the angle of the jaw, and inclosed in sterilised antiseptic gauze. This method of dealing with the ear not only

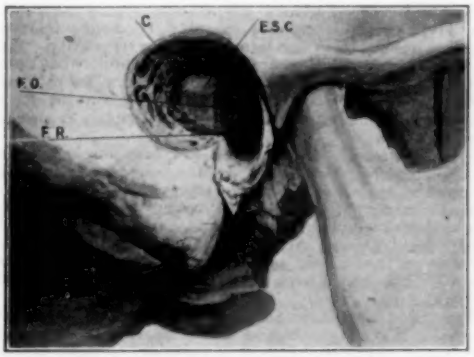
permitted an excellent view of the parts but enabled one in working to avoid any possible injury to the meatal wall in any part. At the same time the auricle being absolutely removed from the field of operation retractors were dispensed with; also as the wound was deepened far more light was available in its deeper parts than is obtainable by other methods. If any difficulty is found in retaining the ear in the position suggested it can be kept there either by means

FIG. 1.

The dotted line from * to * shows the line of incision, the arrow the direction in which the meatus is divided.

of a stitch holding it to the skin under the chin or by attaching to its raw surface a pair or two of artery forceps. As a result of the previous operations the bony semicircular canal was very quickly exposed to view. By means of a small gouge the whole of its upper surface was rapidly cleared from the more porous bone immediately suprajacent (see Fig. 2). The upper surface of this external

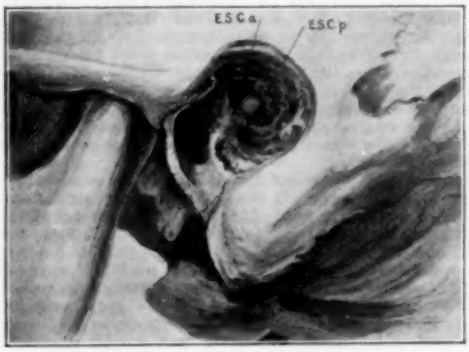
FIG. 2.



The completed radical mastoid operation, showing E.S.C., External semicircular canal. C., A large deep mastoid or petromastoid cell. F.O. and F.R., The oval and round windows. (The posterior meatal wall is not so completely cut away as for suppurative disease.)

semicircular canal was then removed by a burr until the membranous canal was opened (see Fig. 3). And it might be well to point out that the diameter of this canal does not exceed a twentieth of an inch. The canal was then followed up along its anterior and posterior limbs, posteriorly until the increase in its calibre notified the close proximity of the ampulla and anteriorly until its slightly backward direction indicated the near approach to the vestibule. For the canals are not really semicircular but rather exceed this. The next step in the operation was to obtain free access to the vestibule. This was done by cutting a third hole into the vestibule, between the two described, with a burr made on the principle of a carpenter's bit, and chiselling away the small bridges of bone left between the three openings. This is done with an extremely fine chisel, highly tempered, and cut with a high pitch. The opening into the vestibule was then enlarged in every direction by means of this fine chisel

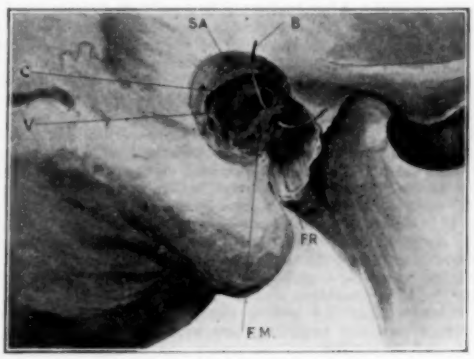
FIG. 3.



E.S.C.a. and E.S.C.p., The anterior and posterior limbs of the external canal, which are followed up into the vestibule.

(Fig. 4). The commencement of the superior canal was freely opened and its ampulla was scraped out. It was more difficult in this case to open the posterior ampulla as the posterior canal was situated at an extremely low level, as is not infrequently the case. The canals themselves, posterior and superior, were not interfered with. The next stage in the operation consisted in freely opening the foramen ovale by abstracting the foot-plate of the stapes so that no fluids could be retained in the opened vestibule. The whole operation cavity was then cleansed with a strong antiseptic

FIG. 4.



The completed operation. B., Bristle passing through vestibule (V.) and oval window. S.A., Ampulla of superior canal. C., Coil. F.M., Bar of bone containing facial canal. F.R., Foramen rotundum.

solution and well filled with oily iodoform emulsion. The operation cavity was filled with sterilised gauze, the end of which was brought out to the meatus, and the ear replaced, the greatest care being taken to see that the helix came back into its original position. No further division of the meatal wall was made, rapid healing in these cases being a desideratum and the preservation of the operation cavity not particularly desirable, as hearing in this instance had been completely lost for so long a period.

The after-history of this case was absolutely uneventful.

There was no shock, nystagmus, or vertigo. At the end of three weeks the patient was able to walk very fairly straight, to go up and down stairs, and to perform any actions she chose without any inconvenience, though she now complains that the giddiness, still present on the left side, is so severe that she wishes an operation performed on that side also. The scar is scarcely visible; there was a slight and transient facial paresis.

Remarks.—In considering the history of this operation one must refer to the stimulus given to operative work on the labyrinth of the internal ear, which originated from two special causes. The first of these causes was undoubtedly the marked relief afforded to sufferers from tic douloureux by the removal of the Gasserian ganglion within the skull and the second was the brilliant results which ensued when suppurative labyrinthitis was treated by correct surgical methods. Undoubtedly the first of these causes acted more directly on the general surgeon and led him to attempt the heroic operation of dividing the auditory nerve within the skull, while the second cause more directly appealed to the aural surgeon.

I shall not in this paper discuss or describe, even shortly, the various methods which have been employed for division of the auditory nerve within the skull, not on account of the high mortality which has followed these operations, but chiefly for the reason that they were all published prior to the publication of any operative work on the intact labyrinth and because it seems that we have every reason to believe that where intracranial division of the auditory nerve has been successful direct destruction of the posterior half of the membranous labyrinth would have been equally efficacious as far as vertigo is concerned; but what is of greater importance still, judging by the six published cases, the latter operation is without risk to life. Here, as elsewhere in surgery, absolute priority in publication is not a matter of any great moment. This is the more so in this instance, as priority of operation was not accompanied by priority of publication; for whilst the honour of having performed the first operation on the labyrinth in non-suppurative disease of the middle ear for the relief of vertigo belongs to Milligan,[1] the writer antedated him as far as publication is concerned.[2] Consequently the real credit for the initiation of operative interference with the labyrinth may be equally claimed by both. It is hardly necessary to add that I was unaware of Milligan's work at the time.

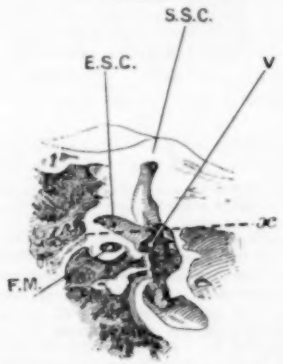
I have in this article omitted all reference to tests with regard to hearing power, though it may be taken that, as far as one can judge, in other cases the operation was justifiable, as it is quite certain that the result in each case was successful. After reviewing the published cases one is forced reluctantly to the conclusion that, while brilliant results are obtained for the relief of vertigo, yet with regard to intolerable tinnitus aurium and noises in the head, where ordinary remedies fail, judging by the results of published cases, neither intracranial nor intralabyrinthine operations promise great hope of relief.

In considering the evolution of this operation it is somewhat remarkable that Milligan's operations, of which there were three, consisted in the removal of the external canal only, leaving uninjured the ampulla, while my first operation went a step further by including the removal of all of the semicircular canal, allowing free entry into the vestibule. In all these cases severe constitutional disturbance followed, which was of some considerable duration and was marked by a temporary increase in the vertigo and by transient shock. From these cases I was led to consider that the proper method was to attack the vestibule, thereby removing the whole of the vestibular fluid and destroying the ampullary nerves and obliterating entirely the lining membrane of the vestibule.

The next step in the operative history under consideration was illustrated by a case in which I had had the misfortune to destroy the facial nerve when attacking the cochlea. This I turned to good account by removing the whole anterior wall of the vestibule and the ampullæ of the various canals. Such a case as this, however useless as a precedent, serves to demonstrate the correctness of the view which I have promulgated—viz., that it was the vestibule that should be attacked, and that the destruction of the canals themselves then becomes of secondary importance, but it is obvious that as long as the facial nerve is intact the whole of the external wall of the vestibule cannot be readily removed as the facial nerve crosses the vestibule between the external semicircular canal above and the foramen ovale below.

The sixth operation for intolerable vertigo is the one now reported. In this case I was enabled to carry out what I believe will prove to be the correct operative procedure to follow in cases of incurable and intolerable aural vertigo. To recapitulate briefly: after exposing the bony semicircular canal its upper surface is cut away with the electric burr until the membranous canal is opened. This canal is then followed up anteriorly and posteriorly to the entrance into the vestibule. Then, by means of a small chisel, these two openings are connected by cutting away the intervening bone. Having once obtained a wide entry into the vestibule the whole of its upper surface, or the vestibular roof, is rapidly removed in such a way as to expose the entrance to the posterior ampullary dilatation. All of the exposed parts of the vestibule and ampullæ are carefully curetted with a fine curette. The next step is to see that thorough drainage is afforded to the small bone-locked cavity, which is done by removing the foot-plate of the stapes. This completes the operation, the facial nerve, sheathed in bone, lying between the openings into the vestibule. In (Fig. 5) it will be seen that the widest part of

FIG. 5



To show transverse section of vestibule (v). F.M., Facial nerve. E.S.C. and S.S.C., External and superior canals, and at *x* is a dotted line to show the level at which the vestibule is opened.

the labyrinth is where the opening is made, thereby enabling one to obtain the freest entry into this cavity. We have now six cases on record in all of which relief has been afforded to a symptom of considerable gravity, for patients suffering from aural vertigo are unable to go about their business with comfort and are often indeed unable to cross a street unaided.

The evolution of the operation has been marked by a steady progress, the removal of the canals alone being followed by unpleasant symptoms, whereas the bolder operation of clearing out the vestibule has not been followed by any untoward symptom whatever, the patients being up and about within a week. And it is also with a certain sense of satisfaction that, as far as I have been able to learn, this operation has been attempted nowhere beyond the confines of Great Britain.

The flap described in this case is one which I have no hesitation in recommending as a suitable means of exposing the field of operation where it is necessary to work deeply into the petrous bone, though it is scarcely a procedure that will as yet commend itself for use in the ordinary radical mastoid operation, though the freedom which one obtains by its use might certainly tempt one to employ it more widely than intralabyrinthine operations alone would permit.

Harley-street, W.

[1] Journal of the British Laryngological, Rhinological, and Otological Association, August, 1904.

[2] THE LANCET, June 4th, 1904, p. 1567.

ROYAL ALBERT HOSPITAL, DEVONPORT.—As a result of the special appeal issued by the committee of the Royal Albert Hospital, Devonport, the sum of £700 has been already received. The appeal states that during the past year 4299 patients were treated, of whom 798 were in-patients, the daily average number of occupied beds being 46·9. The expenditure for the past 12 months was £4536, whilst the income to be relied on was only £3200.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF SYPHILIS FOLLOWING THE BITE OF A HUMAN BEING.

BY JAMES GARVIE MCNAUGHTON, M.D. EDIN., M.R.C.P. EDIN.

A WOMAN, aged 55 years, who was sent by her medical attendant to the Throat Hospital, Manchester, for further treatment gave the following history of her symptoms. On August 11th, 1905, she was bitten on the back of the hand by a woman and a sore which required about six weeks to heal subsequently formed at the place. About five weeks after the bite spots began to appear on her body and a little later her hair began to come out.

When the patient was seen by me on Dec. 22nd the sore on the hand was quite healed, leaving a dark red scar of the size of a florin. The rash had quite disappeared but the woman was still suffering from condylomata. Her mouth showed several mucous patches, especially on the inner surface of the lips. In the larynx there was considerable infiltration of the inter-arytenoid region, with ulceration of one vocal cord. The patient is a widow; but there seemed to be no reason for believing that the disease had been contracted in any other way and her medical attendant has informed me that a primary sore developed at the seat of the bite. The comparative rarity of the communication of syphilis in this way seems to make the case worthy of record.

Manchester.

A CASE OF HÆMATOCELE OF THE SPERMATIC CORD.

BY W. DIXON HARTLEY, M.B., B.S. LOND., M.R.C.S. ENG., L.R.C.P LOND.,

ASSISTANT MEDICAL OFFICER AT THE BOLINGBROKE HOSPITAL, WANDSWORTH COMMON, S.W.

THE patient, who was a tall youth of average build and 20 years of age, was playing cricket on August 26th, 1905, as wicket-keeper, when a medium-paced ball struck him just above the left pubic spine. He did not feel much pain at the time and went on playing, the game not being at all delayed. About an hour afterwards he felt pain on walking and noticed that flexion of the thigh had become difficult owing to a feeling of stiffness. There was no sign of bruising but he found that there was a lump over the region of the left pubic spine. He rubbed the part regularly with embrocation but the pain was not relieved. He went to the out-patient department of the Bolingbroke Hospital on Sept. 5th, by which time the swelling over the pubic spine had subsided and some little discolouration of the skin had appeared.

On examination there was felt in the left side of the scrotum a tumour which was continuous with a considerable thickening of the spermatic cord above it. As the thickened cord was traced upwards its diameter gradually diminished but the upper limit was very indefinite, being situated about the centre of the external abdominal ring. At the upper margin of the scrotum the cord was two-thirds of an inch in diameter. It was rounded in outline and hard but it yielded slightly under the pressure of the finger. There were no signs of hernia, the thickened cord being raised on coughing. Continuous with the cord above and extending for two and a half inches downwards into the scrotum was a sausage-shaped swelling one inch in diameter, with a full rounded end, placed a quarter of an inch above the left testicle—this organ being raised half an inch higher than its fellow of the other side. In front and at the sides the scrotal tumour was rounded and perfectly smooth in outline and configuration; whilst on its posterior aspect the constituents of the cord could be left spreading over it, the vas deferens being easily traceable throughout its extent. The tumour was firm but pliable to digital pressure. It was not transparent to transmitted light and was not reducible. It had no connexion whatever with the tunica vaginalis and there was no effusion present in the latter sac. The spermatic veins were not enlarged on either side. There was no weakness of the abdominal walls and the thickened cord was moveable from side to side. On Sept. 8th the scrotal tumour had extended further downwards and was in contact with the testicle but could be separated from it. Its lower extremity was larger, had become more flattened, and bulged into the tunica vaginalis.

The diagnosis was hæmatocele of the spermatic cord following an injury. The patient had never suffered from hernia, but his father had had an inguinal hernia all his life. The hæmorrhage in these cases seems to occur into a pre-existing sac, probably a portion of the funicular process, which has become closed at each end in the course of development. It is difficult to imagine how a diffuse hæmorrhage into the tissues of the cord could present the physical signs described above, especially the full rounded lower limit and the definite sausage-shaped tumour, as the blood in such a case would tend to gravitate still further downwards and to envelope the testicle.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ST. GEORGE'S HOSPITAL.

A CASE OF PHLEBOLITHS SIMULATING SUBCUTANEOUS FIBROUS NODULES.

(Under the care of Dr. ROLLESTON.)

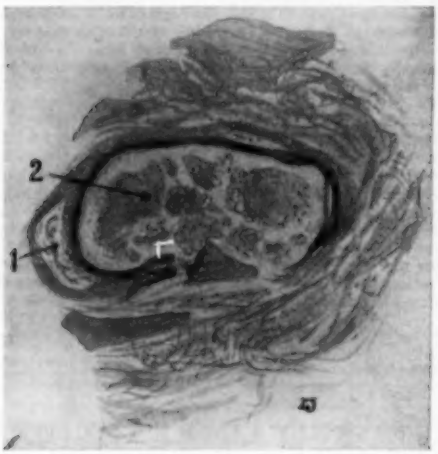
A WOMAN, aged about 50 years, was admitted into St. George's Hospital under the care of Dr. H. D. Rolleston on Nov. 18th, 1905, with subacute gastritis from which she rapidly recovered. She had twice had an "ulcerated sore throat," when a child and 12 years ago, but had never had rheumatism or chorea. The joints did not show any evidence of arthritis deformans and there was no sign of von Recklinghausen's disease (generalised neurofibromatosis).

Remarks by Dr. ROLLESTON.—The point of interest in this case was the presence under the skin over both shins of numbers of discrete, small, hard, painless, moveable nodules of the size of minute shot or less; these nodules were not attached to the bone or to the skin. There was a bunch of varicose veins on the inner side of the left thigh just above the knee and some small superficial varicose veins were visible over the front of both shins, but there was no manifest continuity between these veins and the small subcutaneous nodules. No similar nodules were found elsewhere in the body. There was some doubt as to the nature of these nodules, which closely simulated the well-known transient nodules seen in the acute rheumatism of childhood and, except for the absence of tenderness, resembled the nodules sometimes found in a number of conditions summarised by Dr. G. Newton Pitt[1] and Professor R. Stockman,[2] such as arthritis deformans, gonorrhœal rheumatism, "chronic rheumatism," influenza, and syphilis. One of the small nodules was therefore excised under cocaine. When cut across it had to the naked eye the appearance of a calcified vessel containing some calcareous material. After the necessary decalcification it was cut, the microscopic appearances being (*vide* figure) those of a vein with some calcification of its walls and calcareous material occupying its lumen; there were no recognisable blood corpuscles in it. The nodule would therefore appear to be a dilated portion of a vein in which

[1] G. N. Pitt: Transactions of the Clinical Society, vol. xxvii., 1894, p. 54.

[2] R. Stockman: The Causes, Pathology, and Treatment of Chronic Rheumatism.

the blood had clotted and subsequently undergone calcification; in other words, of a phlebolith in a vein showing some calcification. These appearances are entirely unlike those of the rheumatic nodule as described and figured by Dr. F. J. Poynton and Dr. G. F. Still.[1] As bearing on the production



Section of phlebolith in a subcutaneous vein imitating a fibrous nodule. Low power. 1, Calcification of wall of the vein. 2, Calcareous material inside the vein.

of these phleboliths it may be mentioned that the patient, who had to be on her legs a good deal, had been accustomed to wear elastic stockings because she had suffered inconvenience from the varicose veins in the lower extremities. It seems probable that the firm pressure thus exerted over the bony surface of the shins first led to the formation of local dilatations and diverticula in the small subcutaneous veins, then to isolation of, and thrombosis of the blood in, these diverticula, and so eventually to the presence of the phleboliths.

For the drawing here reproduced I am much indebted to Mr. Lawrence Jones.

BRISTOL GENERAL HOSPITAL.

A CASE OF THE STOKES-ADAMS SYNDROME, WITH NECROPSY.

FOR the notes of the case we are indebted to Dr. A. Rendle Short.

A man, aged 51 years, a painter, came under treatment on August 27th, 1905, complaining of fits. There was nothing of interest in the family history. With regard to his previous history he was in perfect health till 18 months ago, when he had an attack of "influenza" and was treated in the Bristol Royal Infirmary. Since then he had suffered from headaches and giddiness. The first fit was on June 12th last. The patient denied syphilis and had not been a heavy drinker. He had never had any symptoms of lead poisoning. He had not had rheumatic fever or chorea. Last June he had six fits in one week and had been having them occasionally ever since, about one or two a week. He also suffered from giddiness and had had headaches, but not recently. There had been no vomiting and the sight was good. The patient's description of a fit was as follows. He did not know beforehand when one was coming on. He suddenly felt giddy and at once became unconscious. He did not know if he cried out or if he was convulsed. He rapidly recovered and felt perfectly well afterwards, and was not at all sleepy. He had passed urine during the fits but had not bitten his tongue. The last fit was on August 27th, when he fell and sustained a scalp wound; this was the immediate cause of his coming under treatment. He also complained of running of the left ear for several months; it had been slight and he had paid it little attention and could give no details. He had not had a sore throat. He also complained of sciatica in the right leg and hip

His condition on examination was as follows. The patient was a powerfully built, intelligent man. There was a superficial scalp wound on the occiput. The pulse at the wrist on the 27th when first seen was 12; on the 28th it was 20, very irregular in force and frequency, with alternately large and small beats; the tension was high and the artery was thickened. Later in the day the pulse-rate was 44. The apex beat was always the same as the pulse, but there was pulsation in the veins of the neck at the rate of about 60. The apex beat was in the nipple line, in the fifth space, and fairly forcible. As to the heart sounds, there were a soft systolic murmur at the apex and a systolic murmur at the aortic area, also heard in the neck. The auricular systole was heard as well as the ventricular. The aortic second sound was accentuated. There was no thrill and the cardiac dulness was normal. The bowels were regular, the tongue was clean, and there was no blue line on the gums. The sleep was good. The temperature was normal. There was a little discharge from the left ear. The nervous system was normal. The pupils were equal and reacted to light and to accommodation. There was no optic neuritis but the vessels were thickened. The knee-jerks were equal and normal. The urine was acid, of specific gravity 1020, and contained no albumin or sugar; the daily quantity was 28 ounces. The patient was given seven drops of tincture of nux vomica three times a day and kept in bed. Aspirin was given for the sciatica. On the 29th the pulse at the wrist was 44; the venous pulse in the neck was 60. At 2 P.M., whilst being examined, the patient had a "fit." It began without any warning or cry. He commenced to turn his head slowly and stiffly to the right; the eyes also deviated to the right. There were no clonic spasms of the head, the eyes, or the limbs. He was quite unconscious. The face became bluer and bluer and the respirations were quick and deep. He did not pass urine. The attack lasted 30 seconds and ended by his drawing up his legs and trying to sit up. He then suddenly regained consciousness and was not in the least confused. The attack passed off with such unexpected rapidity that unfortunately the opportunity was lost to feel the pulse or to listen to the heart. On the 30th at 6.30 A.M. Dr. Short was called to see the patient. Whilst being washed he suddenly stopped breathing, became unconscious, got very blue, and died. He was quite dead when Dr. Short got to the bedside. Artificial respiration and external massage of the heart were performed but in vain.

Necropsy.—The meninges were very œdematous and the pial vessels were full. The brain was soft and watery. No neoplasm or abscess was present. The left middle ear contained granulation tissue and the drum was perforated. The mastoid antrum also contained granulations. The temporal bone was normal and the dura mater was not loosened over it. The lungs were congested. The heart was not dilated: the auriculo-ventricular openings were of normal size. The left ventricle was a little hypertrophied. The mitral valve flaps were thickened and the chordæ tendineæ were thick and shortened. The endothelium and the musculi papillares showed white fibrous patches of thickening, which were quite superficial. The aortic valves were normal but there was a patch of atheroma in the aorta just above them. The aorta was only moderately atheromatous. The coronary vessels were traced throughout but showed no atheroma or thrombosis. The heart muscle showed a few scattered patches of fibrosis not well marked. The kidneys were of normal size; the cortex was a very little diminished and the surface was slightly granular; the capsule was slightly adherent. The spleen showed fibrous capsulitis. The other organs were normal. The cerebral cortex was examined microscopically and the cells were found to be normal. The Nissl granules were normal. The aortic nerves and vessel wall were also examined microscopically, but unfortunately the material kept did not contain any ganglia. The nerves were normal; the aorta was atheromatous.

Remarks by Dr. SHORT.—The association of (1) attacks of unconsciousness, in which tonic though not clonic spasm took place, and (2) a slow pulse with (3) otorrhœa suggested a diagnosis between Stokes-Adams syndrome complicated by otorrhœa and abscess of the brain. The normal temperature and absence of mastoid tenderness, drowsiness, optic neuritis, or localising symptoms were against the last-named, but perhaps the most important indication was the fact that

[1] Poynton and Still: Transactions of the Pathological Society, vol. l., 1899, p. 324.

the venous pulse in the neck and the ventricular and radial pulses were asynchronous owing to the characteristic "heart block" of the Stokes-Adams syndrome. It is, however, interesting to note that Gowers points out that otorrhœa may cause slowing of the pulse. The necropsy showed no adequate cause of death. The fibrosis of the heart wall was but slight, the patches on the endocardium being quite superficial. The coronary arteries were quite free throughout from any trace of thrombosis or atheroma. Not having at that time realised the importance of the auriculo-ventricular band of His in these cases I unfortunately did not submit it to microscopical examination.

ST. VINCENT'S HOSPITAL, MELBOURNE.

A CASE OF LOCALISED INTRAPERITONEAL ABSCESS, ASSOCIATED WITH A PECULIAR FIBROID THICKENING OF THE MESENTERY.

(Under the care of Mr. G. A. SYME.)

THE patient, a married woman, aged 50 years, was admitted into St. Vincent's Hospital on Oct. 25th, 1904, complaining of abdominal pain and attacks of vomiting, with progressive loss of flesh. Her illness began 12 months previously with pain in the stomach, coming on after meals. She was treated for indigestion and improved somewhat, but after a time the pain became worse and was accompanied by vomiting after eating solid food. The vomiting relieved the pain. She was then restricted to a liquid diet, but vomiting and pain came on again and she began to lose weight Her bowels had always been regular. She had never had jaundice. The menopause occurred five years previously. There was no history of previous illness.

On admission the temperature was 100° F., the pulse-rate was 120, and the respirations were 24. The right abdomen was rather rigid and tender from the costal margin to the iliac crest. The rigidity and tenderness were most marked just above, and to the right of, the umbilicus. In this region an ill-defined swelling could be made out. She had a slight leucorrhœal discharge, but a vaginal examination revealed no abnormality. The tongue was tremulous and rather furred. The urine was normal except for a copious deposit of urates. The patient was kept under observation for some time. The temperature remained about 100° in the evening and normal or 99° in the morning. She vomited occasionally, chiefly mucus, once tinged with blood. The swelling in the umbilical region became more distinct and seemed more elastic and doubtfully fluctuant. The tenderness became more marked.

On Nov. 10th the patient was anæsthetised with chloroform and the abdomen was opened by an incision in the midline at and below the umbilicus. A thick, inflamed mass of adherent omentum and small intestine presented. The adherent coils were carefully separated from one another and from the omentum, the whole mass being surrounded and protected by sterile gauze wet with sterile saline solution. As the adhesions were separated pus began to ooze up and was mopped up on sterile gauze. Eventually an abscess cavity was defined, walled by small intestine and its mesentery, the latter being infiltrated and thickened and the corresponding coil of bowel being purple in colour and deeply congested. The intestine was involved for an extent of nearly three feet and was resected. The mesentery was ligatured off with silk and the divided ends of the bowel were united by a continuous silk suture through all the coats and a continuous serous suture. The abdominal incision was closed with interrupted silkworm-gut sutures. The operation caused considerable shock but the patient rallied well, especially after a pint of saline solution was infused under each breast. Except for a stitch abscess she made an excellent recovery and wrote to Mr. Syme recently to say that she was perfectly well.

The removed portion was sent to the Pathological Laboratory, University of Melbourne, and the following report was received. "At intervals in the mesentery, near its attachment to the bowel, are patches which are thickened and firm to the touch. On section these patches appear fibrous with fibrous bands extending out into the fat. In some of the patches a fair-sized vessel is seen towards the centre. Nowhere are the vessels thrombosed. The larger vessels are somewhat thicker-walled than normal but this is not marked. New vessels are not very numerous. Around some of the larger vessels in the centre organisation has occurred into fibrous tissue with elongate nuclei. At the spreading margin are numerous large cells, fibro-blastic in character, with active nuclei. Organisms were stained for specially but none discovered. The condition is a chronic inflammatory one."

Remarks by Mr. SYME.—The pathological condition in the above case was obscure and I have been unable to find any record of an exactly similar case. Mr. J. Bland-Sutton, in a paper on the Effects of Perforation of the Colon by Small Foreign Bodies, especially in Relation to Abscess of an Epiploic Appendix,[1] has reported cases of intraperitoneal abscess due to small foreign bodies which had escaped from the large intestine. It seemed a possible explanation of this case that, in similar fashion, a small foreign body might have made its way from the small intestine into the mesentery. But no such cause could be found. It is difficult to say whether the changes in the mesentery were primary or secondary to the suppuration. At the time of operation it seemed most probable that the changes were due to some thrombosis of the mesenteric vessels and for that reason it was decided to resect the bowel, which certainly looked on the verge of gangrene. The pathological report on the removed specimen, however, showed that there was no thrombosis. The long duration and relatively mild character of the symptoms were also remarkable.

Medical Societies.

LIVERPOOL MEDICAL INSTITUTION.

The Sanatorium Treatment of Consumption.

A MEETING of this society was held on Dec. 21st, 1905, Sir JAMES BARR, the President, being in the chair.

From 8 to 9 o'clock a number of clinical cases were exhibited. At 9 o'clock Dr. R. J. M. BUCHANAN and Dr. C. J. MACALISTER opened a discussion on the question, "Is the Sanatorium Treatment of Consumption Worth While?"

Dr. BUCHANAN said that in consumption as in other infective processes, some internal power was working towards recovery and much might be done by stimulating this power to action or in assisting it when inactive. In all cases of pulmonary tuberculosis, especially in the early stages, treatment was urgently called for and was usually followed by marked benefit. He pointed out the principles upon which the treatment of consumption should be based and said that these were indicated by our knowledge of etiological factors and the principles of hygienic and dietetic treatment, which were true, honest, sensible, and right, and demanded the advocacy of all true, honest, sensible, and right-minded members of the medical profession. These principles of treatment admitted of no discussion and were best carried out in a sanatorium worthy the name by a medical man who thoroughly believed in them and enforced them in a systematic and an exact manner, with the due amount of respect which their truth and importance demanded. Dr. Buchanan's personal experience of sanatorium treatment enabled him to say that he knew of no treatment so invigorating, so sensible, and so trustworthy, and which held out so much hope and encouragement, or which afforded so great a prospect of success.

Dr. MACALISTER said that his experience of sanatorium treatment had been disappointing, for although many of the cases had been sent in the early stages of the disease in nearly every instance a relapse had subsequently occurred. He commented upon the utter futility of treating the poor in sanatoriums and pointed out that those patients who subsequently died from pulmonary tuberculosis did so in much the same period as they would have done had they never been in one of these institutions. The death-rate from pulmonary tuberculosis had not diminished to any great extent since the advent of the sanatorium treatment, and judging from the figures of those who kept careful records in the pre-sanatorium days the recovery-rate and the death-rate of the disease were about the same as they were in patients treated in sanatoriums. Dr. Macalister

[1] THE LANCET, Oct. 24th, 1903, p. 1148.

thought that many of the most successful sanatorium cases represented patients in whom a strong tendency to recovery existed and mentioned his experience with patients presenting this tendency. He thought that the personal factor had more to do with recovery than any special line of treatment. He advocated the construction of inexpensive buildings for sanatoriums so that more money might be devoted to the maintenance of a larger number of cases, both early and more advanced. He thought that the best way of dealing with the problem was to endeavour to prevent the disease by exercising much stringency with reference to known elements of infection and by adequate disinfection of dwellings inhabited by persons suffering from pulmonary tuberculosis.

Mr. COLIN CAMPBELL thought it unfortunate that after 10 or 12 years of sanatorium treatment facts remained so few and statistics so inconclusive or contradictory. The utmost confusion still existed as regards the classification of cases and vagueness in the reports of the various forms of cures, so called, obtained. Favourable results lay somewhere between the 60 per cent. of "economic cures" reported from Germany and three out of 38 cases reported from Heswall in which the disease was "arrested."

Dr. G. A. CRACE-CALVERT said that statistics of sanatorium results were adversely affected by the very short stay many patients made, often six weeks or less, by the kind of work to which a patient had to return, and by the surroundings, often the most unsuitable, to which patients returned. He emphasised the necessity of sending early cases to the sanatorium, for the great majority did excellently, and it was wise to send such patients to the sanatorium first and to the country afterwards, because they then early learnt how to carry out treatment and much valuable time was saved.

Dr. J. ERNEST NEVINS considered that as Poor-law authorities and other public bodies were being urged to erect sanatoriums, the phrase "worth while" should be judged from the point of view of social economy, in which case the decision would be unfavourable. Many sanatorium enthusiasts had admitted that results were unsatisfactory but the blame was thrown on the patients who were "unsuitable." The conditions necessary to make a case "suitable" were impossible for the vast majority of consumptives, and it was little or no use teaching a man a mode of life which his social circumstances would never allow him to carry out.

Dr. W. B. H. WOOD, Dr. T. R. GLYNN, Dr. A. L. MORGAN, Dr. W. B. WARRINGTON, Dr. NATHAN RAW, Dr. A. G. GULLAN, Dr. E. T. DAVIES, and the PRESIDENT also took part in the discussion.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on Dec. 15th, 1905, Dr. Leonard G Guthrie being in the chair.—Dr. J. G. Emanuel (Birmingham) opened a discussion on the Bacteriology and Pathology of Pleural Effusions. He said that serous effusions were four times as common as purulent effusions in adults, but in children they occurred in practically equal numbers. In adults a purulent effusion was often secondary to a serous one, but in children it was generally purulent from the first. Of empyemata 75 per cent. were pneumococcal and these might be either secondary to pneumonia or primary. Streptococcal empyema was rare in children but common in adults. Empyemata containing staphylococci often indicated tuberculosis. An empyema complicating a case of pulmonary tuberculosis was generally pneumococcal or streptococcal. The naked-eye appearance of the pus was no trustworthy indicator of the micro-organism. There was no essential bacteriological difference between serous and purulent effusions.—Mr. J. P. Lockhart Mummery said that cases of empyema in children could be conveniently divided into two classes—namely (1) those where the infection was purely pneumococcal and (2) those where a mixed septic or tuberculous infection existed. The great majority of cases were pneumococcal and in these a free exit for the pus was all that was required; drainage for any length of time was not required, and it was often unnecessary to use a drainage-tube at all. In the other class of cases and in those where much thickening of the pleura existed good drainage was always necessary. He advised irrigation of the pleural cavity with water or salt solution in suitable cases and considered that the fatal results which have sometimes followed this practice were to be attributed to the iodine or carbolic acid solution used He was of opinion that the after-treatment of cases of empyema in children was very important and that the thoracic movements ought not to be restricted by tight bandages or heavy bedclothes. He advised that respiratory exercises should be used to re-expand the lung in all cases—at first expiration against resistance to enable the sound lung to expand the affected one and at a later stage regular respiratory and muscular exercises in a surgical gymnasium which should by preference be carried out in classes of several children by a skilled instructor.—Dr. G. A. Sutherland referred to the frequent absence and slight character of the symptoms in many cases of moderate pleural effusion. Breathlessness and tiredness on exertion were the commonest symptoms complained of. Coughing, pyrexia, wasting, and anæmia were often present but were not diagnostic. A lemon-coloured skin and clubbing of the fingers which had developed rapidly and without cyanosis were strongly suggestive of purulent effusion.—Dr. Edmund Hobhouse (Brighton) said that acute pleurisy could be cut short and effusion prevented by active measures in the early stage, but when once effusion had fairly commenced it was very doubtful whether it could be cut short by any medical measures. Two or three different lines of treatment have been pursued by different authorities. In the first instance it was sought to reduce the quantity of fluid by increasing the fluid output and reducing the intake. With this object diuretics, diaphoretics, and purgatives were given freely and a thirst diet was adopted; but most authorities were now agreed that the results attained were by no means proportionate to the discomfort entailed. If a reasonable trial of medical measures were insufficient to reduce the effusion it would be necessary to remove the fluid by puncture.—Dr. W. J. S. Bythell said that about three years ago he was led to undertake the investigation of the bacteriology of empyema in children, and the objects at which he aimed were to determine (1) the source of infection of the pleura, (2) the species of micro-organism, and (3) the influence of the bacteriology upon the clinical features of the disease. In 40 cases of empyema occurring in children whose ages varied between 10 months and 11 years, and of whom 27 were males and 13 were females, the source of infection in over 80 per cent. was undoubtedly an acute broncho-pneumonia, in 10 per cent. it was an acute pneumococcic infection of a pre-existing pulmonary tuberculosis, and in another case it followed upon a sarcoma of the lung. In six cases the empyema appeared to be "primary." The influence of age upon the species of bacteria was well known and his result fully confirmed the great relative frequency of pneumococcus; the actual percentage in his cases was 90 alone or with streptococcus.—Dr. W. Ewart read the notes of a case under his care at the Belgrave Hospital of a boy, aged 10½ years, treated by paracentesis, by syphonage, and the admission of air into the pleural cavity, with subsequent relapse of the effusion, which was treated by intrapleural injections of adrenalin solution without paracentesis with rapid recovery.—Mr. L. S. Dudgeon said that during the last five years he had made many examinations of the fluid taken from the chest in cases of serous and purulent effusion. If the fluid was clear and the cells, either in few or large numbers, consisted entirely of lymphocytes he thought that the case might be definitely said to be tuberculous. If, on the other hand, what was described as the polynuclear phagocyte was found it could be said that the case was due to one of the pathogenic organisms. Another point, to which reference was not made, was that in one case he found a very large number of cells which showed active mitotic figures, and post mortem the child was found to have suffered from diffuse sarcoma of the chest cavity and pleura.—Mr. Arthur Edmunds said that he desired to exhibit an apparatus to demonstrate the importance in relieving empyema of making the opening into the chest sufficiently free to allow of the pus being forced out voluntarily.

ROYAL ACADEMY OF MEDICINE IN IRELAND; SECTION OF OBSTETRICS.—A meeting of this section was held on Dec. 15th, Dr. R. D. Purefoy, the President, being in the chair.—Dr. R C. B. Maunsell showed a Uterus removed by Wertheim's Method for Carcinoma of the Cervix. He said that he thought that the operation should be performed if possible, for he believed that the suffering was less when a patient died from a secondary growth, as in the liver, than from the primary one. The ureter had to be separated if the parametrium was to be extirpated and he thought that there was little danger of the ureter sloughing if it was not pinched in any way. He had found it somewhat difficult to carry out Wertheim's procedure—namely, to lay the finger on the ureter and pass the finger between the ureter

and the uterine vessels. The operation was rather lengthy.—Mr. E. Hastings Tweedy read a paper dealing with some points of interest in a series of 211 major operations performed by him in the Rotunda Hospital. These comprised 44 ovariotomies, nine panhysterectomies, 15 subtotal hysterectomies, 14 pyosalpingotomies, 32 ventrofixations, two anterior colpotomies, 11 salpingotomies, 15 tubal pregnancies, three ovarian resections, nine ventral hernias, seven radical operations for procidentia and one for tuberculous peritonitis, two vaginal hysterectomies for painfully retroverted uteri, two retroperitoneal sarcomata, four Cæsarean sections, 18 vaginal fixations, seven abdominal myomectomies, ten vaginal myomectomies, one enterostomy, and five vaginal hysterectomies for cancer. There were eight deaths in this series—two under anæsthesia in profoundly septic patients, two in abdominal and one in vaginal hysterectomy for cancer, one after vaginal myomectomy, one after subtotal hysterectomy, and one after abdominal removal of purulent tubes. The skin wound showed some suppuration in five cases, staphylococcus albus in two, bacillus coli in one, and a diplococcus in a fourth, whilst the germ was not looked for in the fifth. Convalescence was delayed in none of these cases. Tubal disease to a greater or less extent was found in 19 of the 32 patients subjected to ventrofixation; nearly all these were sterile and an effort was made in every instance to remove the pathological state by breaking down adhesions, resecting ovaries, and opening the lumen of the tube. He believed that neither Mackenrodt nor Wertheim had succeeded in establishing their operations for cancer on a permanent basis. Mr. Tweedy dealt with his method of closing the abdomen in layers and by means of a leaden plate, and pointed out that in a recent Cæsarean section, undertaken by him for the second time, no trace of silk was to be found either in the uterine or abdominal walls, nor had any adhesions formed in the neighbourhood of the scars. He described in detail the operative technique in force in the Rotunda Hospital and the simple and inexpensive design of the theatre. None of his failures were attributed to architectural deficiencies in his operating-room, which he believed to be adequate for the requirements of aseptic surgery. In its simplicity it furnished a crushing argument against the lavish expenditure so fashionable in the present day.—Dr. H. Jellett said that he agreed with Mr. Tweedy in his views on expenditure on operating theatres. He also approved of having the windows open during operations. He thought that the sterilising apparatus should be removed to some distance from the theatre as the air could at present be contaminated by it. He was inclined to think that face-bags were not really necessary if the operator took proper care of his teeth.—Dr. F. W. Kidd said he thought that many cases of sterility were due to the condition of the male. He approved of wearing masks as a certain amount of sputum was kept out of the field of operation by them.—Dr. A. J. Horne agreed that the enormous expenditure incurred in making theatres was to be deprecated. He appreciated the strict asepsis of Mr. Tweedy and suggested that the nurses also should wear masks. The fact of so many stitch abscesses having occurred showed that, no matter what care was taken, accidents would happen.—The President said that he had not made the use of indiarubber gloves a general practice. Many operators stated that their successes were not materially increased by the use of these gloves and the difficulty of manipulation was certainly increased.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Dec. 20th, 1905, Mr. T. J. Dabell, the President, being in the chair.—Mr. R. G. Hogarth showed a girl, aged 12 years, from whom he had 14 weeks previously removed a Hydatid Cyst in the Liver. Although only a small lump could be felt through the abdominal wall the left lobe of the liver was found at the operation to be enlarged enormously, reaching nearly to the umbilicus. After incision and evacuation of the numerous daughter cysts, which completely filled the mother cyst, the latter was peeled off. The liver was indurated and fibrous around the cyst and was stitched to the abdominal wound without difficulty. Drainage was provided for and bile escaped from the wound for a long time, though the wound eventually healed soundly.—Dr. H. Michie, in opening a discussion on the Treatment of Uterine Prolapse, said that it was not easy to explain why the uterus should descend in some cases and not in others. By the aid of a diagram of a transverse section of the female pelvis he demonstrated what he believed to be the chief structures concerned in retaining the uterus in its normal position and placed them in the following order of importance: the utero-sacral ligaments, the utero-pelvic ligaments, the levatores ani muscles, the broad and round ligaments, and the perineal body. In his experience it was quite rare to meet with complete rupture of the perineum and prolapse of the uterus in the same subject. He pointed out that the uterine ligaments, though composed of the same kind of tissue, were not ligaments in quite the same sense as were the ligaments of joints, the latter being more compact, unyielding, and attached to fixed points. Since, under normal conditions the uterine ligaments, sacral and pelvic, could be quite easily felt, both from the vagina and from the inside of the pelvis, whilst in cases of pronounced prolapse these structures could not be made out at all, he considered that this was important evidence of their function; and considering that the complaint occurred for the most part in women past the prime of life, as did other forms of hernia, he believed it was due, as in these, to relaxation and attenuation of the tissues and especially of the fibrous and tendinous structures. From its comparative frequency in spinsters he did not consider that pregnancy and labour had so much to do with its production as was generally supposed. In discussing treatment, Dr. Michie said that inasmuch as worn-out tissues could not be replaced or renewed prolapse of the uterus could not be completely cured, and that it was possible only to compensate for their defects by means of pessaries or to mend them in the best available way by one or another of the many operations performed or recommended for this purpose. In his own practice he confined himself to the use of Hodge or ring pessaries as mechanical supports and for the most part to Tait's operation of extension of the perineum, with or without the removal of a greater or less extent of the vaginal walls. This operation, when well performed and modified according to circumstances, he believed to be more satisfactory than any other, and should recurrence take place, which he did not deny might happen after a longer or shorter interval, a pessary would still afford the requisite relief.—Dr. W. R. Smith dwelt on the importance of prophylactic measures in the milder cases, such as (1) rest, (2) the remedying of endometritis or any other cause of local congestion, and (3) the avoidance or reduction of anything determining downward pressure, such as tight-lacing, straining at stool, and especially chronic cough. In the matter of pessaries he thought that the combination fluid-ring pattern acted best; cup and stem pessaries were certainly very irksome. In a survey of operations recommended for the condition he passed in review perineorrhaphy, colporrhaphy (partial and complete), colpectomy, and shortening the utero-sacral or round ligaments. On the whole, he favoured ventrofixation, combined with anterior or posterior colporrhaphy. In suitable cases this gave excellent results, while the risk was practically *nil*. Not the least important part of the treatment was the subsequent rest in bed for at least a month, especially if the stitches were taken out.—The President said that in view of the frequency of the condition any satisfactory operation would be a great boon. All pessaries were difficult to keep clean.—Dr. W. Hunter said that patients often derived great comfort from a ring pessary and failing that Napier's cup and stem gave good results. He alluded to a treatment by the injection of paraffin or quinine.—Mr. Hogarth said that repair or advancement of the perineum often made it possible to retain a pessary. Ventrofixation was not altogether satisfactory; in procidentia he thought that hysterectomy was the best operation, as it was easy and not dangerous.—Dr. R. Alderson said that he had known ventrofixation give excellent results which continued for two or three years after the operation. Silkworm-gut sutures were used and removed at the end of two weeks, while the patient kept her bed from four to six weeks.—Mr. W. Morley Willis pointed out the advantage of an intraperitoneal shortening of the round ligaments, as distinguished from Alexander's operation, and the discussion was continued by Dr. James Watson, Dr. A. J. Sharp, Dr. S. E. Gill, and Miss Sarah Gray.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Dec. 15th, 1905, Dr. J. Lindsay Steven, the President, being in the chair.—Dr. J. H. Nicoll showed several patients from a further series of cases of Congenital Obstruction of the Pylorus treated by Operation. He said that divulsion combined with gastro-enterostomy was the ideal operation for the affection but

that as regards the patient it was often inadmissible on account of the extreme debility generally present. In the six cases submitted an operation had been carried out by which divulsion had been combined with a Y plastic operation on the pylorus. The cases were not shown as "cures," sufficient time not having yet elapsed to test that, but as demonstrating the low mortality of the operation. Only one of the six patients had died. Of the others four had apparently quite recovered, a period ranging from three to 12 months having elapsed since the operation.—Dr. Nicoll also showed several Prostates which had been recently removed by operation, with considerations based on an experience of 100 cases of prostatectomy. He held that the mortality-rate of prostatectomy was fairly put at 5 per cent. and was being steadily reduced. The choice of treatment, therefore, for those cases of prostatic retention not yielding to medical treatment was increasingly in favour of radical relief by operation as against regular catheterisation. He had seen no reason to alter his opinion published in 1894, that the first step in prostatectomy should be the suprapubic opening of the bladder, the operation being then completed by vesical or perineal enucleation as might be decided. He held that nothing essentially new in the technique of prostatectomy had been added during the past ten years.—Dr. G. B. Buchanan read a short paper on Scopolamine-Morphine Anæsthesia and reported four cases in which he had used it, following the method of Korff, recommended by Terrier. In none of his cases did general anæsthesia ensue and it was necessary to give a little chloroform in addition. Nevertheless, the effects of scopolamine as an adjunct to chloroform were very satisfactory. Fear and apprehension before the operation were absent, even in nervous patients; a very small quantity of chloroform was required, there was almost complete immunity to pain for the next 24 hours, and sickness was very slight. One of his cases showed marked slowness of breathing for half an hour (ten and even seven respirations per minute) but the patient was otherwise well. All the patients expressed satisfaction with the effects. Dr. Buchanan quoted a number of cases reported in various periodicals, amounting to 4345, including 408 cases of labour, and called special attention to a paper by Roith in the *Münchener Medicinische Wochenschrift*, in which amongst other points a series of deaths was recorded and discussed. Those, with three others reported by Ries in the *Annals of Surgery*, amounted to 23, all of which, however, except two or three, occurred in patients seriously disabled by disease and could not be ascribed directly to the anæsthetic. The conclusions arrived at by the most competent observers were the following. 1. That scopolamine and morphine should be employed as an adjunct to chloroform and not as a means in themselves of inducing full narcosis. 2. That pure scopolamine only should be used because hyoscine, with which it is said to be isomeric, gave uncertain and inconsistent results. 3. That small doses ($\frac{1}{150}$th of a grain of scopolamine with $\frac{1}{4}$th of a grain of morphine) should be injected from half an hour to an hour before operation, or if time allowed should be divided into two doses and given separately with an hour's interval between them. 4. That chloroform must be given in very small quantities, drop by drop, and should not be pushed to the point of abolishing the reflexes; that, however, constituted one of the disadvantages. Ether was much less satisfactory in that respect. 5. That special care was necessary with those suffering from diseases of the heart or kidneys, and with children. 6. That in old people the small dose of scopolamine was often sufficient to produce general narcosis without the aid of chloroform. 7. That the solutions must be freshly prepared each time and for that purpose tablets of scopolamine were now on the market.

CLINICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on Dec. 19th, 1905. Mr. E. T. Milner, the President, being in the chair.—Mr. E. Stanmore Bishop showed several specimens and three patients illustrative of New Growths in the Sigmoid Flexure and Rectum. He specially drew attention to three points in connexion with this subject. In the first place it was found that whilst carcinoma undoubtedly attacked all parts of the large intestine, by far the largest majority of the cases occurred in the rectum. Many of the obstructive growths found in the sigmoid flexure were not carcinomatous but fibro-adenomatous and therefore innocent except for the obstruction which they produced. Two of the patients exhibited had had such growths removed from the sigmoid flexure, the bowel being re-united; one of these had been operated upon five years before. The immediate risk to life from obstruction was the same in both carcinoma and fibro-adenoma but the ultimate results after removal were widely different. Sufficient attention had not, he believed, been directed to this peculiarity of sigmoid neoplasmata. In the second place, there was an imperative necessity in all cases of obstruction from such growths for a preliminary temporary colotomy. He detailed a case under his care in which ineffective colotomy had been performed, with the course of events during and after the excision of the bowel at a later stage. The case ended fatally; it was indeed one long struggle with sepsis due to the passage of fæcal material over the raw surfaces. He referred to Hupp's analysis of fatal cases, in which 50 per cent. died from sepsis, due, as Hartwell had remarked, to the infection of the parts by fæcal material. He confuted the argument brought forward that such patients were unfit for two operations, showing that at the time of obstruction they were still more unfit for total resection and that colotomy instead of further weakening the patient was the one measure which allowed the possibility of recuperation. He emphasised the fact that at the time of obstruction the actual danger was not the growth at all but the accumulation of decomposed material behind it and the poisons contained therein. Other, though less important, reasons were also dwelt upon. In the third place, he showed a patient upon whom Kraske's operation had been performed with the formation of a sacral anus. He demonstrated the disadvantages of this and suggested that in any case in which the amount of intestine requiring removal was too great to permit of the re-formation of the normal canal ending in a normal anus the operator would be wise in being either content with a simple inguinal colotomy or, should the growth be removable, in taking away the whole of the distal intestine, so that the end of the fæcal tract should lie at the inguinal anus.—Dr. G. H. Lancashire read a paper on Some Skin Affections due to Pyogenic Organisms. After discussing the important question of the secondary pus infection of skin disease, some common infections primarily due to staphylococcic and streptococcic infection were described with their treatment. Mention was made and instances were given of other less recognised forms of pyogenic infection.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held at the Royal Devon and Exeter Hospital on Dec. 14th, 1905, Dr. J. Mortimer being in the chair.—A vote of sympathy was unanimously passed to Dr. H. Davy in his recent bereavement.—Mr. A. C. Roper showed two cases of Sarcoma of the Upper Jaw, one before and the other after operation. He showed the tumour removed in the latter case and a microscopical section was exhibited, proving the tumour to be a large round- and oval-celled sarcoma.—Mr. Roper also showed a Uterus with many Fibroids which he had removed by hysterectomy.—Mr. C. E. W. Bell read reports of two cases of Strangulated Hernia where the gut was gangrenous at the time of the operation. The first case was one of femoral hernia in a man, aged 64 years. The gut was gangrenous on operation and six inches of bowel were removed and the ends were stitched together, and the patient made a complete recovery. The second case was also one of femoral hernia in a woman aged 74 years. Here on operation it was found that the bowel had been completely divided by the process of sloughing at the seat of the constriction and that one end was loose in the peritoneal cavity which was full of fæces. The bowel was resected and the ends were sutured and the peritoneum was washed out but the patient died six hours later. In neither case was there much shock or pain, nor did the patient seem seriously ill.—Dr. J. Raglan Thomas opened a discussion on Physical Degeneration. He referred largely to the interdepartmental report on this subject. He laid special stress on the following signs of physical degeneration: (1) the majority of people, both children and adults, had bad teeth; (2) few mothers were able to nurse their own children; and (3) the stature of boys in industrial schools was very inferior to that of boys in public schools. He mentioned some of the probable causes of this physical degeneration or unfitness, such as the urbanisation of rural districts, the large amount of female labour, the consumption of tinned foods and decay of home cooking, the large amount of tea-drinking, the artificial feeding of infants on bad and insufficient food and tinned milk, and the moral contamination of both boys and girls who, lacking proper occupation in the evening, were forced out into the streets. He laid special

FIG. IV.

Palmar Surface of the left hand.

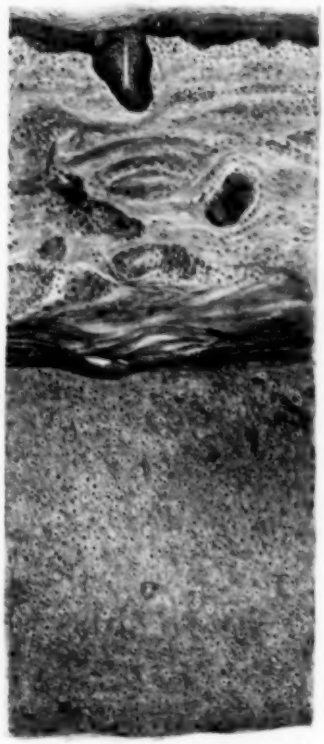


FIG. V.

Section of the skin and cartilage (s.l. superficial layer and d.l. deep layer) of the ear.

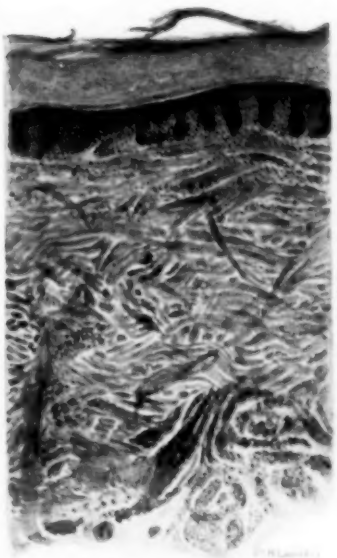


FIG. VI.

Section of the skin of the finger. r.m. rete Malpighii, f.t. fibrous tissue.

TO ILLUSTRATE DR. FRANK POPE'S PAPER "A CASE OF OCHRONOSIS."

FIG. I.

A side view of the left hand showing the pigment beneath thumb nail.

FIG. II.

Right eye showing patch of pigment in the sclerotic.

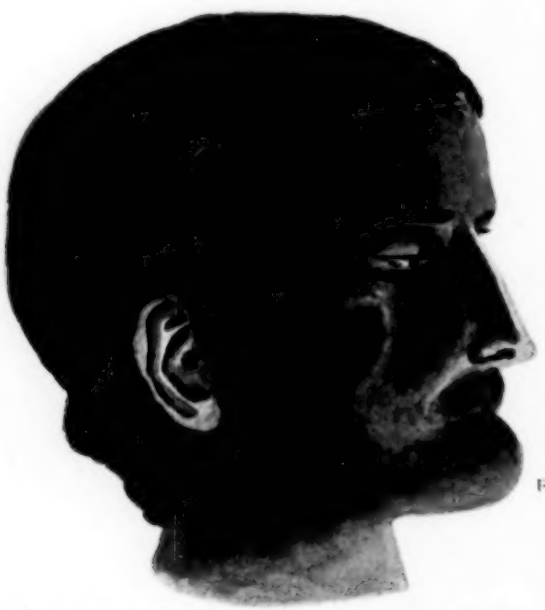


FIG. III.

General view of the head much reduced from a Water-Colour Sketch. Note the blue shade of the cartilage of the ear.

stress on the enormous infantile mortality, which was greater than it was 60 years ago. He mentioned three societies which in different ways tried to remedy this condition of affairs—(1) the National League for Physical Education and Improvement; (2) the National Service League; and (3) the Society for Housing of the Working Classes.—Owing to the lateness of the hour the discussion on Dr. Thomas's paper was deferred to the next meeting.

Reviews and Notices of Books.

Sanitary Laws of Scotland and Principles of Public Health. By W. J. BROCK, D.Sc., M.B. Edin., F.R.S. Edin., &c., Medical Officer of Health of Midlothian, &c. London and Edinburgh: Oliver and Boyd. Small 8vo, pp. 480. Price 7*s.* 6*d.*

THIS little volume is handsomely bound in flexible red leather, gilt-edged, and well printed, though the type of all but 120 pages is so small as rather to strain the reader's eyes, in gas light especially, the paper being, in order to keep the volume in small bulk, so thin as to be a little too transparent—which means, after all, that we cannot have large type and thick paper combined with small bulk and full contents. The work includes, verbatim or in abstract, all the statutes relating to public health which apply to Scotland, even though they are not confined to that country—such as the Rivers Pollution Prevention Acts, the Factory Acts, the Sale of Food and Drugs Acts, and the Housing of the Working Classes Acts. Most are given only in abstract, the main exception naturally being Scotland's Magna Charta of public health, the Act of 1897. Following the Acts themselves there is in an appendix a reprint of official circulars and Orders relating to them, on the same lines as those of a little volume issued by the Scottish Local Government Board. In other appendices vital statistics, food, water, air, and ventilation are dealt with; in another a synopsis is given of the requirements of the Scottish Conjoint Colleges Examining Board for the diploma in public health and a syllabus of requirements for sanitary inspectors' certificates; and still another appendix gives a digest of decisions on the sanitary laws. The scheme of the book is therefore good and most of it has been well carried out.

In some respects, however, the work is open to criticism. Concerning preventive measures in infectious diseases, attention is quite properly given to the value of hospital isolation of scarlet fever and the author states that he will quote extracts from writers who have recently given their views on the subject. All the writers quoted, however, are those who can be ranked as doubting or denying the value of such isolation and not a word is quoted on the other side. Statistics for Edinburgh are given which are interesting and, so far as they go, support the view that hospital isolation is useful, which is evidently not what the author himself thinks, but he is quite right to doubt deductions from the figures of only a limited period. Regarding the Edinburgh figures, it would have been convenient had explanation been given of such facts as that in the year 1896 there were 2185 notified cases, of which 1703 were removed to hospital, while in 1897 the cases were 2597 and only 748 went to hospital, and of the still more remarkable fact that in 1904 the number of cases treated in hospital considerably exceeded the total number notified. Regarding disinfection, it is stated at p. 323 that corrosive sublimate solution (1 part to 1000 parts of water) should have added to it 10 per cent. of chloride of sodium, but on the next page it is more reasonably stated as 10 parts, not 10 per cent. In using the same solution for a disinfecting spray it is recommended that 10 per cent. of alcohol should be added. As to vaccination, the author does not appear to know that we in England have since 1897 had the compulsory age fixed at six months as in his own country. Wakley, not Wakely, was a coroner for Middlesex, and Russell, not Russel, was member of the Local Government Board in Scotland. Virchow's researches relating to typhoid fever in Hamburg are spoken of but it is not said where a record of these researches is to be found. Here and there, indeed, the writing is a little careless. The book contains a great deal of useful information regarding vital statistics, air and ventilation, food, drinking water, and so on, and the digest of decisions on the sanitary laws will be found valuable. Also there is an excellent index.

Hygiene. By J. LANE NOTTER, M.A., M.D. Dub., Chairman of Council and Examiner to the Royal Sanitary Institute; Examiner in Public Health to the Universities of Cambridge, Manchester, and Liverpool; Honorary Member of the Hungarian Society of Public Health, &c.; and R. H. FIRTH, Lieutenant-Colonel, Royal Army Medical Corps; Professor of Hygiene in the Royal Army Medical College; Member of the Council and Examiner to the Royal Sanitary Institute. Sixth edition. London, New York, and Bombay: Longmans, Green, and Co. 1905. Pp. 491. Price 4*s.* 6*d.*

So to write a work of this nature as to adapt it to the requirements of both professional and non-professional readers is a more serious undertaking than appears at first sight or is generally believed. Setting aside the number and variety of scientific subjects which fall within its scope, it is no easy task to determine what to omit and what to include in order to give the general but appreciative reader sound, intelligent, and untechnical knowledge of the facts and principles underlying the many-sided subject of hygiene on the one hand, while maintaining its scientific character sufficiently to fit it to take its proper place in a series of scientific manuals intended for more advanced students, on the other hand. It is but natural in such circumstances for the reader to turn to the scientific acquirements and reputation of those undertaking it as evidence of their competence to do so and to the measure of success which has followed their attempt. In these respects there is no room for misgiving in the present case. The names and recognised position of the authors are a sufficient guarantee of their competence and the fact that this is the sixth edition of their work (the first was published in 1894) sufficiently proves the success of it. It is mainly with the general laws and principles of hygiene and with the reasons which have led up to the establishment of these rather than with the enumeration of a number of details that the authors have very properly concerned themselves. But such facts and details as have any direct bearing or are illustrative of any point under discussion have not by any means been ignored or neglected. It is surprising, indeed, what an amount of relevant and readable information is comprised in some 490 pages of which the volume consists. We have gone through these and in doing so had marked many of them for reference and comment but it is not easy, nor is there any need, to do this in the space at our disposal.

We have already said enough to indicate our opinion of the nature and the value of the book. The present edition has been partly re-written and otherwise added to and revised. We may especially direct the reader's attention to the sections devoted to air, water and its chemical analysis and bacteriological examination, the ultimate disposal of refuse and excreta (remarks on land treatment and biological methods), and to Chapter VII., on infection and disinfection. In this chapter the subject of infectious diseases and infection in connexion with the micro-organisms of modern bacteriological researches and the existing views regarding immunity to disease are well and succinctly set forth. It would be hopeless to attempt to keep pace altogether with the almost daily developments and advances in practical science, nor is it the object of a book of this kind to do so. But it is only right to add that the authors of

this manual, which contains many useful formulas and diagrams, seem to have spared no pains to bring it up to date and to make it a trustworthy and valuable guide for all and an excellent introduction in particular for those who intend to enter on a more extended course of study and work in this direction.

Handbook of Physiology for Students and Practitioners of Medicine. By AUSTIN FLINT, M.D., LL.D., Professor of Physiology in Cornell University Medical College. With 247 illustrations and 16 coloured plates on Histology. New York: The Macmillan Company. 1905. Pp. 877. Price 21*s.* net.

Dr. Flint's name is well known as the author of several books on physiology. He has taught the subject since 1858 and this work represents his teaching as given at present in the Cornell University Medical College. Candidly, we do not think that it will "hold the field" in this country against other better and well-known text-books. There is a kind of feeling on reading it that reminds us of the old practice—condemned on high authority as unsatisfactory—viz., putting new cloth on old garments. It contains a good deal of what used to be called "physiological anatomy," a large number of the illustrations being from Sappey and Hirschfeld. This the author regards as a necessity for his students. Descriptions and "illustrations of instruments and apparatus are omitted." Of the physiology of nerve and muscle there is but little. The Atlas of Histology consists of 16 plates in colour, some of which are taken from Sobotta's Atlas; the others have been reproduced by the three-colour photographic process from actual specimens, and to these are added a few from Wilson's "Atlas."

To the account of the blood about 14 pages are given. There are no diagrams of its spectroscopic characters, while in the composition of blood plasma the carbonic dioxide is given as in solution. Moreover, peptones are said to exist in it to the amount of 4 per 1000. In dealing with the cause of cardiac rhythm one ganglion of the frog's heart is described as placed "between the left auricle and the right ventricle" (p. 45). We are told that reflex arrest of the heart can be produced by stimulation of the cervical sympathetic. There are no tracings of blood pressure, of respiratory movements, or muscle curves; indeed, the direct results of the graphic method have practically no representation. There are but two or three "curves" of any kind in the book and these are pulse tracings, including an obsolete one by Vierordt. At the present time it seems odd to produce a text-book on physiology and one illustrated by such a large number of figures, and yet that no space is found for blood-pressure tracings and other graphic records.

The salivary glands are described as of the racemose variety. We do not find an account of the fundamental experiments of Ludwig on the secretion of saliva. The products of gastric digestion are described in very general terms. Enterokinase can hardly be called "a true proteid ferment." As to the recent work on intestinal movements, it finds no place. Each chapter is introduced by a discourse on the physiological anatomy of the organ with which it deals, and this subject, it seems to us, is far too prominent, though it is possibly necessary for the students of Cornell College. No doubt it is helpful, but much space is taken up that might be devoted to physiology proper. The cranial nerves are fully illustrated and their functions described, about 50 pages being devoted to this subject, while their functions are also illustrated by references to clinical cases. About 20 pages suffice for the spinal cord. The diagrams given to show the motor and other cortical areas hardly correspond with our most recent knowledge on this subject. As to the sympathetic system, its treatment is more anatomical than physiological and we failed to find an account of the use of nicotine in connexion with "cell stations." Here is a curious statement: "When the sympathetic filaments distributed to a gland are divided the supply of blood is much increased and an abundant flow of the secretion follows (Bernard)," (p. 613).

A rather long chapter is devoted to embryology and it is illustrated by a number of figures, anatomical and histological. As a whole the work seems to us to deal with physiology more on anatomical than true physiological lines. No doubt here and there reference is made to certain modern advances but other advances of equal importance are conspicuous by their absence.

As to the "Atlas," there is a note on the technique of photomicrography in colours by Dr. Leaming, stating how the results are obtained. The author states that he is "particularly fortunate in certain objects for reproduction." The section of the stomach showing peptic cells and acid cells he believes to be unique. We do not share his opinion if he means by unique—unique in its excellence.

A Text-book of Clinical Diagnosis by Laboratory Methods. By L. NAPOLEON BOSTON, M.D., Director of the Clinical Laboratories, Medico-Chirurgical College, Philadelphia. Second edition, with 330 illustrations. London and Philadelphia: W. B. Saunders and Co. 1905. Pp. 563. Price 18*s.* net.

IN February last we reviewed the first edition of this work and our forecast as to its merits and usefulness has been fully justified, for the author was called upon to prepare a revision of his book eight months after its publication. Slight changes have been made and 17 pages of new matter have been added at the end covering the more important advances, or at least what are claimed as advances, such as Biff's new hæmoglobinometer, Ficker's reaction on the clumping of dead typhoid bacilli, Ravold's combined heat and contact test for albumin, Cammidge's test for glycerine in the urine, and Cipollino's test (December, 1904) for hydrochloric acid in the gastric contents. Where there is a multitude of tests it rather points to the supposed unsatisfactory nature of the old standards. Most of the new advances require careful control. This, of course, can be done by the wide publicity given to them by such a work as the present. We have got reconciled to the use of the word "centrifuge," but now we are presented with "torfugation," a centrifugal method depending upon the revolution of a tube-containing bar upon a twisted cord, with which a speed of 5000 revolutions a minute may be obtained, and it is, of course, an easy stage to a "torkrit." In other respects the work is substantially unchanged. The print and illustrations are excellent. The work will prove a mine of reference for the busy practitioner and at the same time it will give him a broad view of the great strides which are being made almost daily in clinical diagnostic methods.

A Manual of Surgery for Students and Practitioners. By WILLIAM ROSE, M.B., B.S. Lond., F.R.C.S. Eng., Emeritus Professor of Surgery in King's College, London, and formerly Senior Surgeon to King's College Hospital; and ALBERT CARLESS, M.S. Lond., F.R.C.S. Eng., Professor of Surgery in King's College, and Surgeon to King's College Hospital, London; Examiner in Surgery to the Victoria University of Manchester, and to the Universities of Liverpool and Leeds. Sixth edition. London: Baillière, Tindall, and Cox. 1905. Pp. 1350. Price, cloth, 21*s.*; flexible leather, 25*s.* net.

WE have on many previous occasions spoken highly of this work and the appearance of this the sixth edition merely requires that we should mention the chief changes which have been made. Modern surgical technique has had a chapter devoted to it, several chapters have been rearranged, and a new chapter has been written on the surgical aspects of gynæcology. The value of the x rays in diagnosis

and treatment has received due recognition. Much of the pathological portion of the book has been rewritten by Dr. W. D'Este Emery, clinical pathologist to King's College Hospital. The book now contains 200 more pages than were in the previous edition, though the adoption of an excellent, thin, but opaque page has made the volume less bulky than it was. We hope the authors will guard against the very natural tendency to enlarge a book at every edition. We commend this issue to the attention of the student as heartily as we commended previous editions.

LIBRARY TABLE.

A Study in Nursing. By Miss A. L. PRINGLE, formerly Matron of St. Thomas's Hospital. London: Macmillan and Company. 1905. Pp. 98. Price 1*s.* net.—This little book is not intended to teach nursing in detail. It is a retrospect of a nurse's work which will be a useful study for her juniors. Miss Pringle says that the lessons of many masters are so mingled in these pages with the teachings of experience that she cannot always distinguish the source of what she has written. At any rate the book contains much sound advice. The headings of the chapters indicate the scope of the little work; they are: 1. What is Nursing? And who should be Nurses. 2. A Glance at the Beginning of the Present System of Nursing. 3 Fields of Nursing. 4. Organisation of the Nursing Staff in a Large Hospital: The Matron's Duties. 5. The Hospital Staff: Ward Sisters and Nurses. 6. The Night Service. 7. The Domestic Staff. 8. The Probationer's Training. 9. The Patient's Bed: The Linen Store. 10. A Study of a Nursing Staff in a Poor-Law Infirmary. Miss Pringle quotes Dr. Worcester's definition of nursing; it is one worthy of remembrance. He says: "The profession of nursing like that of medicine is an art dependent on science; but in nursing, important as is the underlying science, the art must always predominate." The tone throughout the book is excellent. The ideal person to make a good nurse is shadowed forth in the following paragraph: "The ministering angel must have her wings tied under a big apron! The least reflection shows that there must be labour and drudgery in the task of nursing; that it involves some offices that are strongly disagreeable and some of a delicate nature; and that there will be exercises for a fine intelligence and deft hands. We must start with the sincere desire to serve and the resolution to bear what is trying so quietly and cheerfully that our sick shall not know what it costs us. We shall need that true refinement which treats delicate matters simply and delicately. Sympathy and good sense must go together in their observations and actions, and the cool, soft hand must be at once tender, firm, and skilful." No nurse can read this little book without finding much to charm and to cheer her, or without improving her knowledge.

With the Abyssinians in Somaliland. By Major J. WILLES JENNINGS, D.S.O., R.A.M.C., P.M.O. of the Force, and CHRISTOPHER ADDISON, M.D. Lond., F.R.C.S. Eng., Lecturer on Anatomy, Charing Cross Hospital Medical School, who arranged the matter for publication. With a Preface by Colonel A. N. ROCHFORT, C.B., C.M.G., R.A. London: Hodder and Stoughton. 1905. Pp. 265.—This volume embodies a diary kept by Major Jennings during the expedition against the Mullah in which the Emperor Menelik undertook to assist by operations in Abyssinian Somaliland. Colonel Rochfort was associated with the Emperor's troops and on this occasion was provided with a small staff. The Emperor requested the services of two British medical officers. Major Jennings was selected as the senior. The operations in the field are well described and the information which he has collected concerning the customs, religions, characteristics, and folk-lore of the Abyssinians will interest the general reader. Major Jennings, who had served for some years in the Egyptian Army, sailed from England in October, 1903, and returned to London on April 28th following. In writing of medical matters among the Abyssinians, he draws attention to the prevalence of leprosy and to the enormous number of persons who suffer from a cestode parasite which inhabits the intestinal tract and which, he says, is no doubt chiefly introduced in the half-cooked or raw beef that is so much eaten. Rheumatism, minor intestinal disorders, inflammation of the eyes and of the outer ear passages, and hysteria in women are common disorders. Dysentery is extremely rare and malaria is scarcely known in the highlands, though it prevails in the low countries. There are no general medical practitioners in Abyssinia. Each physician is a specialist but the list of his remedies is but a small one. The book is very suitably illustrated with 65 pictures from photographs taken by Major Jennings and by a map of the route which he traversed. The volume is very good reading and the portions given up to reminiscences of big game shooting and other forms of sport are attractive. The medical aspect of the book is a comparatively small one but the whole work is of considerable interest.

Landmarks and Surface Markings of the Human Body. By LOUIS BATHE RAWLING, M.B., B.C. Cantab., F.R.C.S. Eng., Assistant Surgeon, Senior Demonstrator of Anatomy, and Demonstrator of Practical Surgery at St. Bartholomew's Hospital; late Assistant Surgeon to the German Hospital, Dalston; late Hunterian Professor, Royal College of Surgeons of England, &c. With 31 illustrations. Second edition. London: H. K. Lewis. 1905. Pp. 96. Price 5*s.* net.—We congratulate the author on the appearance of a second edition of this work within 12 months. Opportunity has been taken of making numerous alterations and additions in the text and the illustrations have been revised and some new ones added. The surface markings of the cerebrum and lateral sinus, which we had occasion to criticise in the former edition, are now given with greater accuracy, and we notice also that Fig. 18 has been modified to show more clearly the position of the colon. The book is certainly improved in many ways and forms a concise and luc'd guide to the subject of which it treats.

Whitaker's Almanack for 1906. By JOSEPH WHITAKER, F.S.A. Pp. 792. Price 2*s.* 6*d.* net. *Whitaker's Peerage for 1906.* Pp. 724. London: J. Whitaker and Sons.—The thirty-eighth issue of that incomparable work, Whitaker's Almanack, reminds us of the remark which Cromwell wrote in his Bible: "Qui cessat esse melior, cessat esse bonus," for we think that it is better than ever. Not but that we miss some of the articles which have been eliminated in order to make room for others, still that is merely personal predilection. There is hardly any subject upon which the average man can desire information which he will not find treated of in the work under review, although the recent changes in the Ministry are of course not included for the very good reason that the Almanack was published in the month of November. But "Whitaker" continues to be a book which everyone must have at hand. "Whitaker's Peerage," which is also a Baronetage, Knightage, and "Companionage," is singularly compact and is full of useful information. In addition to the body of the book the introductions deal with various points concerning the Sovereign, the Regalia, the Peerage and its degrees, peers outside the House of Peers, and the vexed question as to whether or not a bishop is always to be called the Lord Bishop. The book is an admirable complement to the Almanack.

Hazell's Annual for 1906. London: Hazell, Watson, and Viney. Pp. 640. Price 3*s.* 6*d.* net.—"Hazell's Annual" differs from other books of reference which appear at the close of a year in that it is in great part retrospective, while

others are prospective. That is to say that it deals mainly with the events of the year previous to that of which the date is given on the current issue. It is certainly one of the most useful books of reference, especially for the journalist, which we know and has one markedly valuable feature in that the articles upon such thorny subjects as the fiscal question are written quite impartially. This year's issue gives the text verbatim of such important international events as the Anglo-Japanese Treaty and the Russo-Japanese Peace Treaty. There is besides an infinity of information upon the men and matters of the day.

Who's Who, 1906. Pp. 1878. Price 7*s.* 6*d.* net. *Who's Who Year Book, 1906.* Pp. 132. Price 1*s.* net. London: A. and C. Black.—These two works of reference were formerly issued as one volume, but the increasing size of "Who's Who" (the current issue is 62 pages larger than the issue for 1905) necessitated their separation. "Who's Who" reminds the reader forcibly of the saying of the Apostle that "one star differeth from another star in glory" and also of the astronomical fact that the number of stars of below the first and second magnitudes is considerably greater than of those contained in the two higher magnitudes. But this is what makes the book in question so useful, for here we find information about a number of persons who, but for its friendly pages, might have blushed unseen for all time and yet persons about whom information is often wanted. We ourselves owe the work a debt of gratitude, for we are constantly referring to it. The Year Book contains lists of Government officials, clubs, editors, newspapers, and magazines, and of many other persons and things. We are glad to see that the list of medical specialists which was included last year has this year been eliminated. Altogether the two books form a valuable adjunct to the reference library.

The City Diary. 1906. City Press Office, London. Price 1*s.*, by post 1*s.* 3*d.*—This is not only a useful diary but a handy work of reference upon many matters connected especially with the City of London. The diary for 1906 is the forty-third annual edition. It is well bound and interleaved with blotting paper.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

PHYTIN.

(THE SOCIETY OF CHEMICAL INDUSTRY IN BASLE, SWITZERLAND; LONDON AGENCY, 27A, ST. MARY AT HILL, E.C.)

PHYTIN is described as the phosphorus reserve material of green plants, containing the phosphorus in organic combination. It appears to be, in fact, a compound of calcium and magnesium phosphate with oxymethylene diphosphoric acid. According to our analysis it contains at least 50 per cent. of phosphorus calculated as phosphoric acid, P_2O_5. It contains no proteid or any appreciable amount of nitrogen in any form. It thus differs from nuclein or lecithin. On heating phytin a slight charring is observed and the ash consists of the phosphates of magnesium and lime. The ash so obtained amounts to 65 per cent. and the moisture amounts to 8 per cent. Phytin is a gritty white powder partially soluble in cold water but completely so when the water is acidulated. The cold aqueous solution gives a curdy precipitate on heating. It is stated that this peculiar form of phosphorus compound insures the assimilation of the phosphorus and hence it is regarded as of some therapeutic value in cases of imperfect metabolism or of general malnutrition.

"TABLOID" RHUBARB EXTRACT.

(MESSRS. BURROUGHS, WELLCOME, AND CO., SNOW HILL-BUILDINGS, LONDON, E.C.)

Rhubarb is well known as a bitter stomachic and purgative but some importance attaches to the way in which the extract is prepared, owing to the griping tendency of certain principles. The extract of rhubarb contained in the two-grain "tabloid" is prepared by a special process. The convenience of this special administrative form of the drug, particularly for the use of children, need hardly be pointed out.

"ANTHRASOL" SOAPS.

(EDWARD COOK AND CO., SOAP WORKS, BOW, LONDON, E.)

We have no fault to find with these soaps; they are evidently prepared with great care, having regard to the purity of the soap basis and the requirements of delicate skins. The alkali and the fats are well balanced and the soaps further contain "anthrasol," which is described as a purified, pale-yellow, limpid tar from which the pitch and colouring matter have been removed, the phenolic constituents and neutral hydrocarbons of tar only remaining. Apart from its powerful antiseptic properties, anthrasol is marked by its penetrating action into the skin. We have examined four varieties of anthrasol soap—namely, toilet soap, oatmeal toilet soap, sulphur toilet and medicinal soap, and an unscented medicinal soap containing 5 per cent. of anthrasol.

HÆMOGLOBIN CAPSULES.

(JULES DENOUAL AND CO., CARLTON WORKS, NEW CROSS-ROAD, LONDON, S.E.)

It is sufficient to be able to say of these capsules that they contain perfectly pure unaltered hæmoglobin. We had the opportunity of examining the hæmoglobin used for the purpose and we found that its solution in cold water gave the characteristic absorption spectrum of hæmoglobin and on boiling the solution coagulation of the albuminous constituents took place. The hæmoglobin contained just under ½ per cent. of iron which, of course, is the normal physiological proportion.

WYCHIA WATER.

(THE WYCHIA CO., DROITWICH.)

Wychia water is described as the natural isotonic product of Droitwich brine and its composition is based upon certain physio-chemical factors concerned in the normal physiological processes taking place in the intestine. Our analysis of the water gave the following results in regard to its chief constituents per litre: common salt, 11·93 grammes; and sodium sulphate, 7·84 grammes. Beside these constituents there are present also small quantities of other natural salts, while it should be mentioned that Droitwich brine is distinctly radio-active and, in fact, gives off a gas which would appear to be the radium emanation. The water is in reality a solution of salines which are present in such proportion as to cause an increase of the true secretion from the mucous membrane of the intestine in contradistinction to the excess of fluid produced there by osmosis or irritating substances. Wychia water, therefore, in acting as a laxative, does so purely physiologically and not mechanically. In doses of from four to eight ounces two or three times a day the water has proved to be of service in habitual constipation, in relieving plethora, and in increasing the secretion of urine and eliminating uric acid. It is an efficient though not drastic saline aperient.

OZONE PAPER.

(R. HUGGINS AND CO., 199, STRAND, LONDON, W.C.)

The ozone paper consists of a bibulous paper saturated with a well-known deflagrating salt. On lighting the paper fumes are abundantly evolved which consist in reality of very finely divided particles of potassium chloride which when inhaled give some relief in certain respiratory disorders, as in asthma. The papers are very well prepared and answer uniformly. The use of the term "ozone" is open to criticism.

THE LANCET.

LONDON: SATURDAY, JANUARY 6, 1906.

Our Readers and Ourselves.

WE wish all our readers a Happy New Year. Not so long ago it was our custom in the opening number of each year to review that which had been done directly by THE LANCET for the benefit and advancement of the medical profession during the 12 months passed and at the same time to indicate in what particular direction, and by the help of whose well-informed pens, we proposed to carry on our endeavours during the year to come. The proceeding was perhaps egotistical but it had its advantages. It showed that we were ready to rely upon our readers for information as to their needs and it helped us to receive from them highly valuable criticism both as to what we had carried through in the near past and as to what we proposed to do in the immediate future. Perhaps our discontinuance of this annual insistence upon the close relation between ourselves and our readers has not been as much due to our increasing modesty as to our feeling, which inevitably has grown stronger year by year, that our desire to serve the medical profession needs no protesting. We can appeal to a record of over 80 years, during which our single aim has been to advance the scientific and material position of our calling, as both a proof that we have deserved the confidence so freely bestowed upon us and an argument that we are likely to continue to deserve it. We are not, therefore, proposing to revert to the publishing of any general programme of intended effort or any general summary of bygone accomplishment. But we think that we may without undue *amour propre* point to two instances where our action has had unquestionable result, as a guarantee that the trust which has been for so long reposed in us will always be met by personal and active endeavour on our side.

Any service which we have been able to render to the Metropolitan Hospital Sunday Fund has always been a source of especial gratification to us. The hospitals of the greatest city of the world have for the most part had to fight hard for their existence ever since they were instituted, remembering always that for them mere existence does not suffice but must be accompanied by growth and by ever-developing usefulness. "Hospital Sunday" was, as is well known, first instituted with marked success at Birmingham, an example soon followed in other large provincial towns but not at once in London. From 1869 to 1873 THE LANCET was constant and earnest in urging the desirability of promoting a Hospital Sunday Fund for the metropolis and in the course of these years numerous and weighty articles on the subject were published in its columns, as well as a large number of letters—notably some from Mr. F. W. LOWNDES of Liverpool. As a result of this and of other persistent and disinterested advocacy, in 1873 the Metropolitan Hospital Sunday Fund was organised to aid in the collection of the annual income indispensable to the maintenance of the London hospitals, and the Fund once started has contributed ever since an important proportion of their resources. In advocating the claims of such a Fund as this public advertisement of an intelligent character and of the widest kind is necessary in order that the needs of the institutions on behalf of which assistance is asked may be placed effectively before all who may be able to give. The pulpits of the various places of worship in the metropolitan area, and beyond it, offer a valuable means whereby the congregations assembled may be informed of what is expected of them; and THE LANCET for nearly 20 years has rendered what we trust has been practical assistance to the efforts of the preacher. That is to say, the proprietors of THE LANCET have caused to be printed at their own expense, annually (with one exception) ever since 1886, a Special Supplement in support of the Metropolitan Hospital Sunday Fund. This has contained not only the statistics of the Fund as published by the authorities of the Fund itself, but the results of independent detailed statistics of every kind from the secretaries of the hospitals in reply to our inquiries, and an exposition of the needs of the London hospitals, backed by such arguments and such additional information as from time to time have seemed most likely to prove persuasive. Our Special Supplements have been gratuitously distributed broadcast through churches, chapels, and synagogues in ever-increasing numbers; no less than 125,000 copies were printed and published in last June. They have, as we have reason to believe, proved instructive not only to worshippers and to those unable to attend Divine service but have also been of use to the preachers. They have advocated the cause of the hospitals as the great voluntary charities of London and have in particular urged that as charities pure and simple, without subsidy from State or municipality, their usefulness will best be continued and extended. Consistently with this view these supplements to THE LANCET have been themselves the gift of the proprietors of THE LANCET, no effort being made to recover the expenditure upon them by the inclusion of advertisements or by any other means. That the Metropolitan Hospital Sunday Fund, and other great funds and agencies competing in the same good work, may be able to keep up their figures and even to increase them is our most earnest wish and we are gratified to think that THE LANCET has been able to render assistance. The actual value of the work done may perhaps best be judged from the most recent statistics published in the "Classified Directory to the Metropolitan Charities" for 1906,[1] edited by Mr. F. W. HOWE. From these it is clear that at the present time the Metropolitan Hospital Sunday Fund and King Edward's Hospital Fund together furnish a full tenth part of the total yearly revenues of the charities to which they contribute.

The second subject to which we desire to draw the attention of our readers is the work of THE LANCET Relief Fund, and we do this so that they may assist any unlucky members of the medical profession to make application for help

[1] Longmans, Green, and Co.

under its scheme. THE LANCET Relief Fund is provided by the proprietors of THE LANCET for the affording of pecuniary help to registered medical practitioners or to their widows and orphans in cases of distress and emergency. The Fund has now been in existence for 17 years, so that a sum of money exceeding £5000 has been placed during that period in the hands of the Almoners for distribution. 450 cases have been relieved since its foundation. The scope of the Fund is now, we trust, well known to those who have read the reports which we have published at the beginning of each year, and to those who have sought assistance on their own behalf or in the interest of others.[2] It does not pretend to alleviate chronic distress, leaving this to be dealt with by organisations intended for that purpose, but it does aim at affording immediate help which, though in a sense temporary, is likely to be of permanent benefit to its recipient. Thus a man may help a lame friend over a stile when there is a reasonable prospect that he will be able to make his way in safety over level ground lying beyond the obstacle, whereas merely to place such a one in a position of temporary safety whence he will flounder into deep mire beyond will do him no lasting good and may land him in worse trouble than before. In bestowing assistance in emergency promptitude is of essential importance, and in the reports of the Almoners which are issued annually cases may be noted in which the donation sought was given within a few hours of the request being made. The Fund is now entering upon its eighteenth year, and it seems not unlikely that in 1906 its aid will be invoked at least as often and as urgently as heretofore. The distress prevalent through want of employment must necessarily affect very seriously many whose practices lie in centres where the working classes reside. Such practices also are, as a rule, those in which the medical man is least able to lay by provision against the sudden contingencies which he or his family may be called upon to face, and it is our earnest hope that the Fund may here be used in such a way as successfully to stave off unexpected and unmerited misfortune. We desire to express our appreciation of the services so willingly and so kindly rendered to the Fund as Almoners by many successive Presidents respectively of the Royal College of Physicians of London, of the Royal College of Surgeons of England, and of the General Medical Council, and by Sir HENRY PITMAN who has been the honorary auditor of the Fund from its commencement.

The Payment of Fees under the Midwives Act to Medical Men.

As we anticipated when the Midwives Act became law considerable difficulty is being experienced in its practical working owing to the fact that no provision has been made for the payment of the fees of the medical men who may be called in under its provisions to the assistance of the attending midwife. One of the rules framed by the Central Midwives Board in accordance with the Act lays down that in certain conditions of special danger or difficulty the midwife must decline to attend alone and must advise that a registered medical practitioner be called in. As a result of this rule cases are constantly occurring in which a medical man is called to see a patient under the care of a midwife and after perhaps the performance of some difficult and complicated obstetrical operation finds that the patient is too poor to pay him any fee. The excuse usually made is that the friends had not intended to call in a medical man and that they are unable to afford such attendance. At the present time there is no obvious way out of this difficulty. The Local Government Board has been appealed to for instruction and advice but it can only suggest that the local board of guardians might pay for the assistance required. Unfortunately, the boards of guardians do not all see their way to accept such advice and while some have consented to pay the fees of the medical men who may be called in, others have refused and have suggested that the services of the district medical officer should be obtained. It is doubtful, indeed, if the boards of guardians have the legal right to make such payments and, if they do, whether such payments will not result in the disenfranchisement of the husband of the patient. We believe, however, that such disenfranchisement would only be operative in the case of the elections to the board of guardians. Many of these patients, too, although not able to pay an adequate fee to the medical man, are not paupers and it would be wrong to treat them as such.

The matter is one of great difficulty and its only solution would seem to lie in the introduction into Parliament of a short amending Act authorising the local supervising authority to make payments to the medical men called in by midwives' advice under the Act on a scale to be agreed upon and sanctioned by the Local Government Board. If the Act is to work successfully there must be no difficulty on the part of the midwives in obtaining medical assistance when they require it, and it is of the utmost importance in the interests of the patients themselves that such assistance should be forthcoming without any undue delay. The framers of the Act apparently did not see their way to make any arrangement for the payment of these fees and rather than run the chance of wrecking the Bill they omitted all mention of payments to the medical men who might be summoned to assist the midwife, no doubt relying upon the proverbial generosity and charity of the profession. It is, however, neither logical nor just if the law practically compels the midwife to send for a medical man in certain conditions that the assistance rendered should not be adequately rewarded. There appears to be a good deal of misconception in the minds of some medical men as to who it is that really summons them in these cases. The fact that the midwife in advising that a medical man should be summoned has to fill up and to send to him a note on a prescribed form stating the reasons why she is sending for assistance seems to have led some practitioners to think that the call is an official one, emanating from the midwife, and that the local supervising authority will therefore be responsible for their fee. This is by no means the case; the medical man is summoned by the person whom the midwife has advised to send for medical assistance and therefore legally this person is responsible for the payment of the fee and there is no power at the present time to make anyone else or any local

[2] The usual forms of application will be published with our next issue.

supervising authority responsible for such payments. In the present conditions of things there has naturally enough been some reluctance on the part of medical men to attend such summonses and the midwives committee in Manchester has brought forward a proposal that one or two medical practitioners should be appointed in each district of the city who might be called upon to render assistance to midwives under the provisions of the Act. Such an arrangement we are sure would not work satisfactorily. The only right and proper way is for every medical man's name to be placed upon such a list unless he is unwilling to allow this to be done and instructions should be given to the midwives to send for the patient's usual medical attendant or to consult her wishes as to whom she should send for in cases where the patient has no medical attendant, whilst in cases of grave emergency the nearest medical man would, of course, be sent for. The passage through Parliament of an amending Act is, however, a matter for the future and in the meantime some arrangement must be made so that the working of the existing Act may not be impeded.

As the Local Government Board has suggested that the boards of guardians might make these payments no doubt in these circumstances such a use of the funds at their disposal would not be disallowed by the Government auditors. A further possibility is that in many cases the guardians or the local supervising authority might recover the payments from the patients' relatives, or they might advance the sum as a loan to be repaid within a certain time. There would still remain a large number of cases in which the fees could not be recovered from the patients and then the money would have to come out of the local funds. All these possible solutions of the difficulty will have to be considered when the time comes for drafting an amending Act and no doubt a plan could be adopted by which the local supervising authority—that is to say, the borough councils or the county councils—would be empowered to make such payments out of the funds over which they have control. If the profession will only unite in impressing the necessity for such an amending Act on their local Members of Parliament and on the members of the local county councils we have no doubt that an arrangement can be arrived at which will be fair to all parties and which will safeguard not only the interests of the patient when the necessity arises for her obtaining medical assistance but also those of the medical man who may be summoned to attend her.

Medical Men in Parliament.

THE near approach of a general election will necessarily turn the thoughts of many people towards ideal conceptions of the constitution of the House of Commons; conceptions in which all the great interests of the kingdom and all the varied forms of knowledge capable of being brought to bear upon the promotion of the national welfare would be proportionately and adequately represented. In an assembly so constituted it is manifest that medicine should hold a prominent place; first, by reason of its many forms of utility to the State; and secondly, by reason of the number and social position of those by whom it is practised. The claims of the profession to increased representation will, we have no doubt, be strongly pressed by a certain number of medical practitioners, as they have been upon previous occasions of a similar kind; and, within certain limits, we have all possible sympathy with this attitude. Attention is again being called, as it has been called aforetime, to the number of lawyers among the Parliamentary candidates, to the protection which their presence in the House will afford to the legal profession, to the absence of any corresponding number of medical men, and to the slender prospect of any satisfactory medical legislation. Unfortunately—or perhaps fortunately—English institutions are seldom constructed upon any ideal basis and, as a rule, they have roughly shaped themselves into some sort of harmony with time and circumstance. The House of Commons, nominally a deliberative assembly, has been gradually converted into a party machine; and there is but little room in it for Members whose places in that machine cannot be at once specified and defined. The fulfilment of this condition implies a readiness to sacrifice individual knowledge or individual convictions at the altar of party; and therefore, of course, to sacrifice at the same time any advantages to the nation which the knowledge or the convictions might be calculated to secure. Good illustrations of this position have been furnished from time to time by the public health legislation of the country, and there is always fear lest the Government in power should consider it expedient to surrender the real and permanent interests of the country in order that the delinquents who may be their supporters may be spared inconvenience or offence. The party politician has to be "cocksure" that he is quite right and that his opponents are quite wrong; and in upholding this position it is necessary for him to be not only impervious to argument, but also, sometimes, indifferent to truth. It cannot be said that either the intellectual or the moral standards of politics are lofty ones; and it is certain that they are of a kind but slenderly compatible with either the study or the practice of science. The medical man who enters the political arena must often be called upon to throw overboard a good deal of his accustomed intellectual ballast and to depart, in many particulars, from his accustomed principles of action. Failing to adopt this course, even if he succeeds in reaching the House, he will find himself but a floating particle between contending factions, powerless to help or to hinder either; and, adopting it, he will be under the necessity of abandoning his most cherished convictions whenever they are out of harmony with the momentary requirements of his associates.

An essential and fundamental difference between the legal and the medical professions in relation to Parliament arises from the fact that to the lawyer a seat in the House of Commons is a recognised means to an end, an ordinary step in a professional career, while to the medical man, as a rule, it can be no more than an end in itself. The legal offices in the gift of the Government are numerous, important, and well paid, and they are regarded either as the lawful prizes of political adherents or as sops by which opponents may be silenced or removed. The medical offices are less numerous, are but slenderly remunerated, and usually require either early training or special competence. A young lawyer who is a Parliamentary candidate

has usually no difficulty in selecting a party, and he often waits to test his powers in the House before he decides whether his best policy will be to become a nuisance to the Government, to be bought off with a small appointment, or a supporter, in the hope of ultimately winning one of the great prizes of his profession. In either case he has no difficulty in giving utterance to all the party watchwords upon the hustings, or in obtaining, if he be a man of sufficient promise, the active assistance of the party organization in procuring his return. Cabinet Ministers, who had never before heard of his existence, will write him letters expressing their conviction that the welfare of the country depends upon his success; and he will for the moment be the embodied representative, it may be of "peace, retrenchment, and reform," it may be of tariff revision, it may be of British dominion over the seas, it may be of the necessity of a living wage for the officers of the army. A medical candidate would, as a rule, be less skilful in his suppression of the fact that there are two sides to every question; and hence he is likely, in the great majority of constituencies, to be rejected as a Laodicean by both parties. He will tend to dwell upon the needfulness of submission to the teachings of science; and, where science has spoken plainly, upon the vanity of the attempts at compromise which are so dear to the heart of the politician. Unless supported by strong local or family influences he has usually but slender prospect of success; and, if so supported, he has probably been guided by circumstances into other channels of activity—i.e., he is no longer a typical medical candidate. Except in the cases of the representatives of the University of London and of two of the Northern Universities the medical Members of the outgoing House of Commons have probably been indebted for their seats to influences more or less remote from their profession.

As a general rule, moreover, with possible exceptions in the cases of a few London specialists, a seat in the House of Commons is incompatible with the demands of medical practice. When the courts rise the lawyers are set free, but the physician and the surgeon are never released from duties to which the most urgent calls of the party whips would have to be rendered subordinate. Even in the cases of the specialists an all-night sitting would be a poor preparation for the duties of the following day. On all these accounts we cannot but feel that the prospect of any material increase in the number of medical Members of Parliament is not one that can be confidently entertained; and, admitting to the fullest extent how useful such Members might be under different conditions, we do not think, under those which actually exist, that their probable absence is greatly to be deplored. Suppose there were 20 medical Members, what good result, so far as the profession itself is concerned, could reasonably be expected from their presence? If they belonged to the party in power they would have been returned under pledges to give a general support to its leaders, and they could not violate these pledges in order to exert pressure in favour, say, of a measure of medical reform or of medical protection. If they belonged to the Opposition their opportunities of action would be still more restricted. If, as would almost inevitably happen, they were divided between different sides of the House, their powerlessness would be complete; and the very worst thing that could happen to the profession, in the estimation of the public, would be that it was represented in Parliament by a few Members who desired to subordinate wider interests to professional demands. We do not wish to appear unduly optimistic, but we think, in all the circumstances of the case, that matters are best as they are. Times have somewhat changed during the last half century: individual effort counts for less and less in succeeding Governments and party calls become more exacting. When THOMAS WAKLEY, the Founder of THE LANCET, was able to force medical affairs upon the attention of Parliament, and to do so with successful results, he was himself a prominent Member, but he was sitting in an assembly where time was found for the expression of individual opinion. Such chances no longer occur. Amongst its Members the House of Commons has generally included medical men who were also men of light and leading, possessing the ear of the House by virtue of known learning and of proved ability, and whose speeches on questions presenting medical aspects have always carried considerable weight. There is no particular reason to suppose that the next Parliament will be less fortunate, or that the present medical Members, if from any cause they should be displaced, will not be followed by successors of similar calibre. But no great outcome can be expected of their efforts in behalf of medicine. They can only enlighten other Members and so do good work indirectly.

Annotations.

"Ne quid nimis."

THE NATIONAL LEAGUE FOR PHYSICAL EDUCATION AND IMPROVEMENT.

THIS league, which as we mentioned in THE LANCET of July 15th, 1905, p. 170, was brought formally before the public at a meeting at the Mansion House on June 28th, has since been making steady progress and is now legally incorporated. The first meeting of the council since its incorporation was held at Denison House, Vauxhall Bridge-road, on Dec. 28th, 1905, under the presidency of the Bishop of Ripon who is chairman of the council, the business being chiefly of a formal character preparatory to the actual work of the league. The league has just received the generous gift of £250 which was bequeathed to it by the late Mr. E. M. Denny who was much interested in its objects and whose wishes in regard to this gift have been carried out by his sons. The objects of the league are more especially (1) to save the babies; (2) to help the children; and (3) to train the youth, although it is intended also to teach parents, to improve dwellings, and to lessen drunkenness. The league is not intended to take the place of any agencies already existing for the physical welfare of the people but to bring them into relation with each other, to help them to coöperate, and to establish agencies where none exist at present. To describe in detail how it is intended to obtain these objects would occupy too much space but we may say shortly that the intention is to bring into relationship those who are already working at different methods of lessening infant mortality, whether it be by feeding the mothers, by the supply of pure milk,

by personal visitation of homes, by provision of crèches, or by offering premiums to babies on the first anniversaries of their birthdays. By this means it is hoped to find out the best methods and then to extend them to other places where no such methods exist. In the same way the league intends to obtain coöperation between the various societies and individuals who are interested in the medical inspection of children in schools, the best forms of physical exercise, the hours of sleep, the provision of playgrounds, the establishment of boys' brigades, of holiday schools, of schools for cookery, feeding of children, and everything that tends to help the children or to train the youth. In the pursuit of all these objects, as well as in teaching parents, improving accommodation, and increasing sobriety, the league hopes to have the aid of all sorts and conditions of men, women, and children. But its chief dependence will be upon medical men, teachers, clergymen, benevolent corporations and individuals, and last, but not least, on the personal aid of women who will devote their time and energies to the help of feeble mothers and perishing infants. We feel sure that such an enterprise will not lack that support from medical men throughout the country which it well deserves. Any information which they may desire regarding it may be obtained on application to the Secretary, 49–50, Denison House, Vauxhall Bridge-road, London.

THE HOURS OF SLEEP AT PUBLIC SCHOOLS.

IT will be remembered that in THE LANCET of July 15th, 1905, we published a paper by Dr. T. D. Acland containing the results of an inquiry into the Hours of Sleep at Public Schools and in a leading article in the same issue we expressed our opinion that at present we err on the side of a deficient allowance of sleep. In the *Times* of Dec. 20th a letter appeared signed by 15 medical men every one of whom could speak with authority upon the same subject. This letter has produced some singularly interesting correspondence in reply from both parents and schoolmasters. One of these, signed T. E. Page, is so amazing in its argument that it deserves special comment. Mr. Page is a master at Charterhouse and is a brilliant scholar but his views upon the duties of an *informator puerorum* are remarkable. He says: "The one patent fact in public school training at the present time is that too much attention is paid to the body and too little to the mind." He goes on to say that schoolmasters can be justly accused of rearing mental dwarfs, and for this, "next to our own incapacity, medical men are chiefly to blame." Further, "men who ought chiefly to be teachers are so fretted and harassed about questions of physical well-being that they are driven to neglect their proper work." He agrees with the signatories of the letter from medical men to which we have referred above that want of sleep is a definite factor in the causation of intellectual inefficiency but he also considers that there are other factors a hundred-fold more important. To advise headmasters to see that boys have more sleep "is after all but a quack remedy. Headmasters and all masters already give their 'serious attention' far too largely to such poor subjects." The opinions here expressed receive a deserved snubbing in a letter in the *Times* of Dec. 27th from another public schoolmaster, Mr. R. F. Cholmeley of St. Paul's School. This writer points out that the question of how much sleep boys should have is surely not one to which a house master can be indifferent and that the question of how to secure it to them is not outside his practice. If questions of physical well-being harass him so that he cannot teach, "is it so certain that he ought chiefly to be a teacher?" Mr. Cholmeley concludes by saying that he hopes that one day the discovery may be made "that the proper work of a house master may be a good deal more than can be managed in the spare time of a hard-worked teacher." We need not labour these points, but as members of that profession which apparently acts the part of the Erinyes to Mr. Page's Orestes we wish to impress upon him that a boy who does not get enough sleep will never be able to profit by instruction upon the mysteries of the enclitic γε or even upon more important matters. Mr. Cholmeley, we think, has put his finger upon the weak spot in modern school polity, for in many ways it would be very desirable that the duties of house master and teacher should be separate. In former days this was the custom and relics of it remained up to some 30 years ago at Eton where there were at least two "dames" who did no teaching whatever but simply acted as housekeepers. The organisation of a house containing some 30 boys is no slight task and it is too much to ask that one man should be responsible for feeding, hygiene, and other matters of domestic polity and at the same time teach both in school and out of school, and look over copies of verse and prose, and direct his pupils in their studies. But that no boy should have less than nine hours of undisturbed sleep out of the 24 should be laid down as a canon.

THE CONGRESS OF CAPITALS.

THE somewhat adventurous proposal made by Sir Edwin Cornwall will, of course, meet with the verbal approval which generally greets suggestions that are right in principle. Nobody can deny that if representatives of the capitals of the civilised world could meet periodically and compare notes in regard to the technical work on which they are engaged mutual instruction of a useful character would be imparted. The greater portion of these technicalities would relate to matters that affect public health, either directly or indirectly. Therefore we have every reason to support the proposed Congress of Capitals and to wish it every success. It is just because we do desire that the project should be realised that we must not ignore the difficulties which have to be overcome. The complexity of the political situations in the various countries undoubtedly constitutes a great obstacle. It is true that even the London County Council is political, the Progressives being generally taken to be Liberals and the Moderates to be Conservatives; but that is a mere trifle when compared to the party divisions on the continent. Then there are municipal councils that are elected by the citizens which they govern and others that are not elected but are imposed upon the people by more or less autocratic Governments. All these disparate and antagonistic elements will require very diplomatic and skilful handling if anything like harmony is to prevail. On the other hand, if such obstacles can be overcome this will redound greatly to the honour of the object or cause capable of effecting union where there prevail so many opposing interests. Indeed, one of the good results of the visit of the Paris municipal councillors to London a short time ago was that the harmony between Paris and London overcame for the time being the causes of quarrels prevailing in Paris and in London. Such appeasement, even if only momentary, must facilitate the work of administration. For instance, a project is brought forward, say a scheme for drainage, and we may mention as a case in point the sewers of Marseilles. This scheme was promoted a few years ago by the Right and Centre of the Marseilles municipal council. Thereupon the Extreme Left from political motives made a point of opposing the scheme. But none of these councillors had any personal experience in drainage; they had never lived in towns that are drained. If, however, they had all visited London, which is drained in a manner somewhat similar to that which was proposed for Marseilles, surely, in face of the *fait accompli*, the Marseilles municipal councillors would have found it much

easier to form an opinion on the merits of the scheme. By means of international congresses municipal councillors will often see in other countries that schemes about which at home they are only quarrelling have already been realised and are in working order. This should facilitate the wider adoption of such schemes and thus bring about needed improvements more rapidly. That the Congress of Capitals will be political in the sense that it will help to promote peace between nations is universally admitted. To this extent politics will be allowed and welcomed. Will the desire to achieve progress in practical matters of municipal administration be strong enough to exclude other political questions about which no such unanimity of opinion exists? Then many municipal questions are also political questions, such as education, the control of the police, sanitary and factory laws, municipal enterprise, and the expropriation of owners of insanitary areas. All these and many other questions go to the very root of the great economical and political problems of the day. Thus, while we are most desirous to see the best possible technical work done and technical problems discussed and decided on their technical merits quite apart from politics, and especially party politics, still there is no disguising the immense difficulties in the way of any such pacific achievement. Perhaps the chief merit of Sir Edwin Cornwall's proposal is that at an international congress the municipal councillors will exercise greater control over themselves. Under such restraint they might then debate on its own merits a question which at home could not be broached without causing a party fight of so fierce a character as to obliterate altogether the real question at issue. A Congress of Capitals might thus result in not only promoting the cause of international peace but might also help in mitigating the virulence of local disputes.

ROYAL COLLEGE OF SURGEONS OF ENGLAND: A NEW MEDICAL SCHOLARSHIP.

THE Royal College of Surgeons has issued the regulations relating to the Begley studentship in surgery and anatomy. This studentship, which is tenable for three years, has been established by funds left for that purpose by the late Mrs. Jane Begley of Hammersmith, wife of the late Dr. William Chapman Begley who died in April, 1887, at the advanced age of 84 years. The establishment of the scholarship is intended as a tribute to the memory of Dr. Begley. He was born in 1803 at Dun Cormac, New Ross, Wexford. The early loss of his father threw upon him the care of a mother and two sisters, but in spite of straitened circumstances he pursued an arts course at Trinity College, Dublin, and obtained the degree of M.A. He subsequently studied medicine and proceeded to the degree of M.D. In addition to this qualification he obtained the diploma of M.R.C.S. Eng. in 1830 and in 1872 was elected F.R.C.P. Lond. Dr. Begley will chiefly be remembered by his connexion with the Hanwell Asylum where he spent 34 years of his life in charge of the male department. During this long period of service his utmost endeavours were exerted to advance the usefulness of his position and to add to the improvements of this great institution. But he laid the foundation of his surgical skill in Derbyshire, where he had a large practice, the result of being in medical charge of a cotton factory. The factory was afterwards burnt out and the owner was ruined, hence Dr. Begley's removal to London and his appointment at Hanwell. Failing health prevented him writing his experiences at Hanwell, which is much to be regretted as he had a very extensive knowledge of mental disorders. The regulations relating to the Begley studentship specify that the studentship will consist of the dividends (£20 per annum) derived from the Begley bequest, and will be tenable for three years. The studentship will be awarded in April, 1906, and thereafter triennially, or at such time as any studentship may become vacant. It will be open, on the occasion of the first award, to any candidate admitted to the second examination of the Conjoint Examining Board in England held in April, 1906, and will be awarded to the candidate obtaining the highest number of marks in the anatomical part of the examination. If two or more candidates in the anatomical part of the examination shall obtain an equal number of marks, being with respect to the other candidates the highest number of marks obtained by any candidate, reference shall be made to the marks obtained by them respectively in the physiological part of the examination and on the combined result the adjudication shall be made, and if their marks shall still be equal it shall be open to the two senior examiners in anatomy appointed by the Royal College of Surgeons to call upon such candidates to present themselves for further examination or to take such steps as may enable them to adjudicate in the matter. The stipend will be paid yearly and the student will receive the first instalment within three months after the award of the studentship and will be required, before payment of the second and third instalments respectively, to send to the secretary of the College a certificate from the dean of his medical school to the effect that his conduct has been satisfactory and that he has been applying himself diligently to his studies.

A MUNICIPAL MILK DEPÔT FOR LAMBETH.

ON July 14th, 1904, the Lambeth borough council decided to establish and to maintain within the borough a milk depôt for the distribution and sale, at a nominal charge, of specially and suitably prepared or modified wholesome cows' milk for the use of infants whose mothers are unable to suckle them wholly or in part. The depôt, which is situated at 66, York-road, Westminster Bridge-road, S.E., was opened on Jan. 1st and every effort will be made by enlisting the help of the clergy, medical men, guardians of the poor, district visitors, and the like to insure that the benefits of the depôt are confined to deserving cases. The premises are fitted up with strict attention to hygienic requirements and the milk is to come from a farm in Hampshire which is to be under medical and veterinary supervision. The milk is guaranteed to be up to Government standard and the cream is to contain not less than 50 per cent. of butter fat. On arrival at the depôt the milk is filtered, cooled, "humanised," and after pasteurisation is stored in special bottles, each bottle holding just enough for one meal. The charges are 3*d*. daily for an infant under six months of age and 4*d*. daily for infants over six months up to 12 months. A slightly higher charge is made for persons living outside the borough. Female sanitary inspectors are to be told off to visit the infants and arrangements have been made for the weekly weighing of infants under the supervision of the medical officer of health. A table of simple instructions is given to all parents or guardians who use the milk depôt. There is one very interesting underlined paragraph in the official circular which runs as follows:—

> The Council realise strongly that no artificial (or hand) feeding of infants can, in any way, compare with natural feeding (or suckling), and instructions have been given to insure that the Depôt milk shall not be improperly used, e.g., by mothers who are capable of properly and efficiently suckling their offspring, but who simply, for some reason or other, refuse so to do.

This is an admirable regulation in theory but we do not envy the task of an inspector, whether male or female, who has to decide whether or not a Lambeth mother is capable of suckling her child but simply refuses to do so. The system of municipal milk depôts is an excellent one. If it be impossible, as it seems at present, to insure that all town dwellers shall have a sufficiency of sleeping room, together with a proper supply of sunshine and of air, it is nevertheless

quite feasible to insure that they shall not be supplied with adulterated or impure milk. Perhaps the Lambeth council will now make it incumbent upon all purveyors of milk to declare openly that the milk sold by them contains preservatives, should it do so, together with the nature of the preservative and the amount thereof. If preservatives are harmful, and there is doubtless a difference of opinion on the matter, the public should by all means know the fact. If preservatives are not harmful, and in the opinion of milk vendors they are not, and the public like them, then there can be no harm in the public knowing that they are used. We think that the Lambeth borough council is to be congratulated on its new departure, although it has taken a long time to carry out its decision. The scheme will, of course, mean an additional charge on the rates, for hardly any municipal undertaking in London is ever profitable or even self-supporting, but if the appalling infantile mortality of 151 per 1000 can be brought down Lambeth may congratulate itself. We see that the depôt is not to be open on Sundays but there is no intimation as to whether a double supply will be given out on the Saturday or whether infants will have to do without municipal milk from Saturday to Monday.

TYPHOID EPIDURAL ABSCESS.

IT is now well recognised that the typhoid bacillus may remain in the system after recovery from typhoid fever and give rise to abscess in various parts, particularly in the bones. At the meeting of the Société Médicale des Hôpitaux of Paris on Nov. 17th M. F. Raymond and M. J. A. Sicard reported a case in which suppuration took place in a situation in which it does not appear to have been observed previously—the epidural space of the lumbar region. A man, aged 48 years, contracted typhoid fever in January, 1905. During convalescence, at the beginning of March, he felt severe pains in the right hypochondrium, right iliac fossa, and right leg. The iliac fossa was puffy. Progressively the leg became paralysed and the symptoms, sensory and motor, appeared on the opposite side. In May, two and a half months after the onset of the paralysis, there were almost complete paraplegia and paroxysms of pain of intense severity. The legs atrophied and the reaction of degeneration was obtained in the quadriceps and adductors of the right thigh. In the area supplied by the crural nerve hyperæsthesia was found at some times and hypo-æsthesia at others. The sphincters were little affected. The knee-jerks and tendo Achillis reflexes were absent. There was no clonus and Babinski's sign was not present. No particularly painful spot could be found in the lumbo-sacral region. The temperature ranged irregularly between 98·6° and 101·3° F. As the onset of the symptoms had been marked by swelling and puffiness in the neighbourhood of McBurney's point, extension of disease to the cord by the medium of the lumbar plexus from an infectious appendicular focus (the meta-typhoid appendicitis of Dieulafoy) was suspected. M. Raymond and M. Guillain have published a case of ascending neuritis of the lumbar plexus after appendicitis. Although all the symptoms seemed to point to ascending neuritis and consecutive myelitis it was decided to obtain further information by lumbar puncture. To the great surprise of M. Raymond and M. Sicard, as soon as the needle penetrated the ligament between the third and fourth lumbar vertebræ and entered the epidural space drops of pus began to flow. The typhoid bacillus was found in the pus. On the following day laminectomy of the third and fourth lumbar vertebræ was performed and half a spoonful of pus mixed with blood escaped from the epidural space. The laminæ removed were found to be quite sound. During the operation some cerebro-spinal fluid was removed with a Pravaz syringe. It was clear and devoid of cells. The wound was drained, good recovery ensued, and the symptoms gradually disappeared. At the time of the report all that remained was slight rigidity of the spine. Thus the typhoid bacillus became located in the fatty and cellular tissue which fills the epidural space and there produced suppuration.

THE WINTER EXHIBITION OF THE ROYAL ACADEMY.

THE winter exhibition of the Royal Academy which was opened to the public on Jan. 1st is a notable exemplification of the saying, Time brings its revenges. A large number of the pictures exhibited are by masters who during their lifetime were, from the Academy point of view, outside the pale. Burne-Jones, Alfred Hunt, Rossetti, and Simeon Solomon occupy a large space upon the walls and their works form a by no means inconsiderable portion of a collection of extraordinary interest. From our own purely professional point of view the chief picture in the exhibition is the fine portrait of Dr. John Ash by Reynolds. This picture, which is lent by the Birmingham General Hospital which owes its foundation to Ash, was painted in 1788 and represents Ash in his doctor's gown, wearing a black velvet suit and a wig. He is seated in a chair holding a plan of the hospital, the buildings of which appear in the background. Ash was born in 1723 and educated at Trinity College, Oxford, whence he graduated as M.D. in 1754. He settled in Birmingham and soon acquired a large practice. When at the height of his fame he became melancholic and had to be separated from his family. According to Munk,[1] he recovered his mental balance by means of the study of Euclid. Anyway, he did recover and resumed practice with great success in London in 1787. In the same year he was admitted a Fellow of the Royal College of Physicians in which body he held many offices. He died in 1798. Of the other works in the exhibition there are fine examples by Turner, Hogarth, R. Wilson, de Wint, Romney, Linnell, Van Dyck, Frans Hals, and many others. Altogether it is a very noteworthy exhibition and is small enough to be seen with comfort.

MEDICAL MATTERS IN LONDON ELEMENTARY SCHOOLS.

THE report of "The Medical Officer (Education)" for the year ending March 31st, 1905, was submitted by the education committee to the London County Council on Dec. 13th, 1905, and now lies before us. The report has a much wider bearing than would appear from the date which it bears, for it contains the substance of Dr. J. Kerr's two preceding reports made to the late London School Board. Previously to the London School Board there had been no such reports, so that from a medical point of view only statistics dealing with the last three years are available, which is much too short a period of time whereon to found any dogmas as regards school hygiene and the like. The report now before us deals very fully with the physical conditions of child life in London, especially as regards mental activity and educational fitness or unfitness. In 1903 a scheme was put forward for an inquiry into the relations between (1) educational status; (2) the physical condition; and (3) the social condition of about 50,000 London school children. Cost, however, stood in the way and even a more modest scheme, "which would not cost more than £300, has been felt to be inopportune and at present is in abeyance." Dr. Kerr considers that an inquiry ought to be carried out, for, as he says, "the vitality statistics of those who are about to enter on active service in the affairs of life, and whose energy is the chief of the national assets, is surely worth the cost of collection." We quite agree with him but the money should be found by the State and not by the ratepayers.

[1] Roll of the Royal College of Physicians of London, vol. ii., p. 378.

A beginning, however, has been made by two medical practitioners—namely, Dr. Frances May Dickinson Berry who examined into the conditions of 1612 girls, and Dr. C. J. Thomas who examined 1861 boys coming generally from the same districts. The results of this inquiry may be shortly summarised as showing that poverty, exemplified by want of clothing, personal uncleanliness, and bad housing, distinctly affects for the worse physique as expressed in terms of height and weight. Overcrowding—i.e., living more than five in one room—produces startling effects, of which tables are given. Out of ten children coming from families living more than five in one room, all except one were markedly deficient in height and weight, although, curiously enough, their mental activity was on the whole good. Statistics are given of one family where five children and the father all lived in one room. There were three girls, aged respectively 22, 16, and 15 years, and two boys, aged respectively 18 and 9 years. In such circumstances as these how can we expect to find even the most elementary regulations of morality, decency, or self-respect attended to? As regards the age of school attendance, Dr. Kerr is in favour of school for infants, if they are properly taught, as up to now they have not been, "but this is being amended." The provision of crèches is recommended, supposing that the difficulty of finding the money can be got over. The remainder of the report deals mainly with the question of infectious diseases in relation to school attendance and with matters such as vision, hearing, special schools, the lighting, heating, and ventilation of school buildings, and with school hygiene. An appendix by Dr. Thomas deals with an inquiry conducted by himself, in conjunction with Dr. S. Davies, into the outbreak of measles in the Woolwich district which commenced in 1904. In a large number of instances infection was not contracted at school but at home. A list of ten general conclusions to which Dr. Thomas and his colleague have come, "as a whole up to the present," is given. The whole report is of great interest and importance and we hope to deal with the matter therein contained at greater length in a future issue.

SUNLIGHT IN 1905.

THE first thing noticeable in glancing at the table which follows is the large amount of sunshine enjoyed during the year at some stations compared with others in the same region. It is observed, for instance, that in the south, Bournemouth, Torquay, and Hastings were considerably more sunny than the other places and that Southampton, which is some distance from the sea, had less sun than all. This illustrates a rule that is general in these islands, where there is almost always more sunshine on the coast than inland. It does not at all follow, however, that the three resorts so favoured by 1905 will be in the same prominent position at the end of 1906, for the average number of hours is nearly the same all along the south coast. In the western group Blackpool was the brightest and that resort was closely followed by Tenby, and Douglas, Isle of Man. Among the resorts on the east coast of Great Britain there is one spot that stands far above the others. This is Lowestoft, the most eastern part of the kingdom. Its grand total of 1827 hours was not only larger than that at any other place in its vicinity but also larger than at any of those on the other coasts. Taking an average of the past 25 years, however, there is slightly more sunshine on the south coast than on the coast of East Anglia, but last year the important months of April and June were wet and dull in the south of England, while the contribution of August was also less than usual. Among the inland stations it is somewhat surprising to see that Bath received less sunshine than northern Harrogate and it is not often that the Glasgow aggregate exceeds that at Manchester. The Channel Islands possess the highest average sunshine, but during last year the deficit was very great, 211 hours at Jersey. The brightest spot relative to its average was Blackpool, where the excess was no less than 398 hours.

Sunshine in 1905.

Station.	No. of hours.	Station.	No. of hours.
East—		West—	
Aberdeen	1360	Tenby	1735
Scarborough	1528	Aberdovey	1509
Skegness	1760	Llandudno	1581
Lowestoft	1827	Southport	1603
Clacton-on-Sea	1688	Blackpool	1760
Margate	1568	Douglas, Isle of Man ...	1743
South—		Inland—	
Hastings	1773	Glasgow	1201
Eastbourne	1691	Harrogate	1609
Brighton	1678	Manchester	1019
Worthing	1714	Nottingham	1400
Southampton	1664	Birmingham	1173
Bournemouth	1815	Bath	1542
Torquay	1786	London, Westminster ...	1289
Jersey	1733		

THE EXPLANATION OF PULSATING EMPYEMA.

THE phenomenon of pulsating empyema or pulsating pleurisy (for the fluid though usually is not necessarily purulent) has always excited considerable interest and many theories have been advanced to explain it. In the *American Journal of the Medical Sciences* for November Dr. W. J. Calvert has published an important paper on the subject and has brought forward an entirely new theory of the pulsation for which he gives good reasons. In 1872 Traube expressed the opinion that the pulsations were due to pericardial effusion associated with the empyema. But in 1875 Frentzel denied that pericardial effusion was necessary for the pulsation. In 1881 Comby explained the pulsation as follows: "When the lung is completely collapsed, pushed to one side, and adherent to the pericardium it no longer resists the heart, the pulsations of which are then transmitted to the fluid in the pleural cavity, thence to the thoracic wall." In 1884 Fereol reported a case of pyopneumothorax pulsans and said that the pulsations were due to the presence of air. Kussmaul explains the pulsation as follows: "When the pleural wall next to the heart is thick enough to resist the impulse of the heart, the heart-beat is transmitted through the pleural wall to the fluid." None of these theories appear to be very satisfactory. It will be observed that in all the pulsations are supposed to be transmitted from the heart. To Dr. Calvert belongs the merit of suggesting a new and unsuspected source of the pulsations—the thoracic aorta—and giving a more satisfactory explanation of the phenomenon. While he was working on cross sections of a body in which there was left pleurisy the anatomical relations of the organs suggested to him the following explanation of pulsating empyema. The requirements for such pulsation are a strongly pulsating organ, contact of the pleural wall with this organ, distension of the pleural sac with fluid, air, or solid material, and a collapsed condition of the lung. The first condition is fulfilled by the thoracic aorta; the second by the normal relation of the pleura to the thoracic aorta; the third by the presence of fluid pus or fluid and air in the pleural sac; and the fourth by the collapsed condition of the lung in pleurisy and empyema. The thoracic aorta above lies slightly to the left of the bodies of the vertebræ; below it is almost in the median

line. Immediately over the aorta is the parietal pleura from the fourth or fifth rib to the diaphragm. In the normal thorax the aortic pulsations are absorbed by the compressible lung tissue and consequently are not transmitted. Fluid in the pleural cavity compresses the lung. As it increases the thoracic walls and mediastinum are pushed outwards from the pleural cavity. As long as the lung contains air it is capable of absorbing the aortic pulsations. Finally it becomes completely collapsed and at the same time the fluid in the pleura increases and presses on the intercostal spaces and in consequence of its increased tension becomes capable of transmitting the aortic pulsations. The diaphragm also probably has pulsations communicated to it but these are absorbed by the abdominal organs. As the pulsation entirely depends on hydraulic principles the nature of the fluid is not important. However, few cases of pulsating serous effusions have been recorded. In certain cases, when part of the fluid has been withdrawn the pulsation has been observed to cease—a fact which accords with the explanation given. In the majority of cases of pulsating empyema the left side is affected. Examination of transverse sections of the thorax shows that the right pleura when distended may be pushed against the aorta. Hence the explanation of those rare cases of pulsation on the right side.

THE WINES OF THE GIRONDE, WITH ESPECIAL REFERENCE TO CLARET.

UNDER the above heading we hope to publish in an early number the report of our Special Commissioner who was appointed by us a few months ago to visit the claret-producing districts of France during the last vintage. The investigation is now completed and the report will give an account of the processes involved in the production of claret and will include the analyses of typical clarets selected on the spot by our Commissioner, which will be compared with similar analyses made of clarets purchased in the open market in this country. The question as to whether, on the whole, the supply of Bordeaux wines may or may not be trusted will be discussed in proper sequence. Further, a section of the report will deal with the light natural clarets of France considered from a dietetic point of view, and incidentally the sociological aspects of the present habits of the nation in regard to its choice of an alcoholic beverage will be discussed.

SIGHING, GROANING, AND MOANING.

IT is a well-known physiological rule, often enforced by the late Mr. Herbert Spencer, that all forms of psychological emotion aroused beyond a certain pitch vent themselves in physical expression. On two recent occasions we have considered in THE LANCET certain common phenomena which are the respiratory expression of abnormal nervous functions resulting in the sudden activity of the diaphragm associated usually with some degree of vocalisation.[1] Sobbing, sighing, moaning, and groaning are, as it were, sentences in a monosyllabic cosmopolitan language. These sounds are really the vocal representation of certain overwrought physical or mental states consequent in general upon a longer or shorter period of inhibition of the rhythmic discharge of the respiratory centre situated in the spinal bulb; the diaphragm has been fixed, the breath either voluntarily or involuntarily has been held or has been shallow whilst breathless introspective attention has been paid to some absorbing pain or sorrow. This condition is markedly present in patients suffering from melancholia who continually and deeply sigh. If this expression of excessive psychical stimulation is rapidly and vigorously performed a cry of anguish or of fright may result, whereas at the other end of this series of phenomena is the feeling of "wanting to sigh," well known among those who are run down in general health. At times these sounds are emitted with the sole object of eliciting the sympathy of bystanders; this is notably the case with hysterical cries. There is, however, no doubt that there are considerable mental comfort and relief obtained from a series of long-drawn sighs during a period of sorrowful depression or from noisy ejaculations of the nature of groans and moans made by a sufferer from such a painful disorder as acute dyspepsia or violent toothache.

[1] THE LANCET: Yawning, Jan. 21st, 1905, p. 174; Hiccough, August 26th, 1905, p. 616.

THE RIGHT HONOURABLE SIR WALTER FOSTER, P.C.

THE granting to Sir B. Walter Foster of the dignity of a Privy Councillor is a well-merited distinction to a member of the medical profession, although the honour, so rarely gained by medical men, has in his case been awarded almost wholly for political work. From 1892 to 1895 Sir Walter Foster acted as Parliamentary Secretary to the Local Government Board, having as Member of Parliament for the Ilkeston division of Derbyshire faithfully served his constituency and party. At the Local Government Board he was recognised by both sides of the House as a thoroughly able and conscientious administrator, and the medical profession, who perforce regard the Board as the medical bureau of the country, felt safe in his hands. Sir Walter Foster has contributed to the literature of medicine both from the point of view of the treatment of disease and in the wider aspect of public health, has been an important and energetic member of the British Medical Association, and was for ten years a Direct Representative of the medical profession upon the General Medical Council.

THE EVOLUTION OF THE TREATMENT OF SEROUS PLEURISY.

THE history of the treatment of serous pleurisy is an interesting one. As Dr. William Ewart remarked at a recent meeting of the Chelsea Clinical Society, little progress was made until the beginning of the nineteenth century. Dr. Ewart thought that the cause of this long delay was clearly traceable to the absence of clinical methods of diagnosis until Laennec's discovery of auscultation. The recognition that certain symptoms were produced by the collection of fluid in the pleural sac naturally led physicians to seek for some methods by which the effusion could be removed. Dr. Ewart's remarks in this connexion were valuable. He pointed out that three periods might be distinguished in the evolution of treatment: (1) from 1800 to 1834 therapeutic measures were purely medical—paracentesis was hardly ever practised; (2) from 1834 to 1869 (from Davies to Dieulafoy) paracentesis gradually came into fashion—this was a mixed period, partly medical and partly surgical; and (3) from 1869 onwards the treatment became almost exclusively surgical and medication fell into the background. Dr. Ewart then mentioned the principal steps in improved surgical procedure which had from time to time been introduced—the exploratory puncture employed by Davies (1834); the use of the syphon suggested by Carter in 1830 and ultimately elaborated by Potain and by Sir Richard Douglas Powell; and the construction of the aspirator by Stamsky in 1841 and its subsequent improvement by Dieulafoy in 1869 and by Potain in 1872. The methods employed at the present time differ, some practitioners preferring the syphon and others the aspirator, but in the majority of cases the use of the exploring needle precedes actual withdrawal of the fluid. In considering the medical therapeutics of serous pleurisy Dr. Ewart remarked that the English school took the lead

in advocating the common-sense principle of feeding instead of starving the sick. He was further of opinion that the "expectant treatment," derived from the scepticism of science on the one hand and of Hahnemann on the other, rapidly gained ground and paved the way for a growing neglect of drug treatment. More recently certain measures have been suggested having for their object the prevention of the re-accumulation of the fluid. In referring to this part of the subject Dr. Ewart mentioned the method published by Sir James Barr, which includes not only the injection of air but the after-injection of adrenalin, and which may therefore be regarded as a "combined medico-surgical" method. This combination was also stated to be a feature in the "preliminary treatment" of serous pleurisy. Dr. Ewart maintained that much might be effected medicinally by way of preparation before paracentesis to insure successful re-absorption of the remnants of the effusion. He stated that the "preliminary intravenous injection method" provided in addition a local preparatory treatment of the pleura. Hitherto adrenalin had been used, as in Sir James Barr's method, but other agents might become available. Dr. Ewart went even a step further and related a case in which the preliminary injection led to re-absorption and so obviated the necessity of tapping. He hoped, therefore, that in a proportion of cases the preliminary injection might in itself be a method of cure. The recurrence of effusion after paracentesis is by no means an uncommon event and any measure by which this may be prevented is well worthy of trial. The remarks made by Dr. Ewart merit attention, for they deal with a condition which is constantly met with in the ordinary course of practice.

MEDICAL RECIPROCITY WITH JAPAN.

AT the last session of the General Medical Council the motion of Dr. Norman Moore that the second part of the Medical Act, 1886, should apply to the empire of Japan was carried without discussion. The recommendation of the Council was approved at a meeting of the Privy Council in December last and has now been duly recorded in the columns of the *London Gazette*. This will subsequently give to Japanese medical men the right to be registered as foreign practitioners in the Medical Register. This recognition of the excellence of the medical work done by our Japanese allies will be approved by all British medical men.

WE understand that arrangements are being made for erecting a memorial to Dr. Ernst Ziegler, professor of pathological anatomy in the University of Freiburg in Baden, who died on Nov. 30th last. As already mentioned in THE LANCET of Dec. 23rd, 1905, p. 1874, Professor Ziegler was a well-known authority on pathological subjects and the founder of two periodicals. He was also highly esteemed as a teacher of pathology. Some new buildings, including a large lecture-room, are being constructed at the University and the present intention is to place a bust of the deceased in the lecture-room. Subscriptions are invited for this purpose and should be forwarded with the designation "Ziegler Ehrung" to Dr. Edgar Gierke, Freiburg i.-B., Rosastrasse 9.

Lord Rothschild, G.C.V.O., P.C., has accepted the office of President of, and Sir Frederick Treves, Bart., G.C.V.O., C.B., LL.D., the office of consulting surgeon to, the Royal Dental Hospital of London.

THE honour of a Privy Councillorship has been conferred upon Mr. Henry Labouchere, whose fearless exposures of fraud in the columns of *Truth* have earned the gratitude of medical men. His denunciations of numerous impostors masquerading as healers of disease and thriving upon the credulity of the public have greatly helped our endeavours to curtail the rampant mischief of quackery. We congratulate Mr. Labouchere upon the honour that has been conferred upon him.

THE medical officer of health of the Cape Colony states that for the week ending Dec. 9th, 1905, the condition of the Colony as regards plague was as follows. No case of plague in man or other animal was discovered at any place throughout the Colony except at Port Elizabeth, where 1 plague-infected mouse was found. As regards the Mauritius a telegram from the Governor received at the Colonial Office on Dec. 29th states that for the week ending Dec. 28th there were 2 cases of plague and 2 deaths from the disease.

WE are requested to announce that the endowment fund now being raised for the family of the late Professor G. B. Howes, F.R.S., will shortly be closed and all intending contributors are asked to send their contributions without delay to the treasurer, Mr. Frank Crisp, at 17, Throgmorton-avenue, London, E.C.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Jan. 5th, 1828.

A Correspondent who signs himself X.Y.Z., complains of the five years apprenticeship exacted by the regulations of the Apothecaries Company, and suggests an improved system of education in toto. As long as the profession remains under the *ban* of its present rulers, no remedy can be effective; nothing short of a radical extinction of the present accursed system will avail, and that this will speedily occur, our correspondent may rest assured. The latter observations apply to the letter of Mr. ALISON, of East Retford, who complains that medical men have not the power of legally enforcing payment for *attendance*, and cites the authority of an eminent counsel to that effect. All this, we repeat, is to be traced to the imbecility and supineness of our rulers, or rather, to the wretched and narrow-minded policy which dictated the framing of laws for their own immediate benefit, whilst the majority of the profession remain unprotected.

The Worshipful Company of Apothecaries seem to be universally despised; we have literally a pile of letters from various sources, complaining of their "worships." One signed W.P. speaks of the injustice resulting from the inquisitorial power possessed by this Drug Company, of visiting the shops of apothecaries and inspecting the drugs—destroying them too, if in the plenitude of their wisdom they should deem fit. It certainly is a most odious enactment—one that is in direct violation of every principle of justice, and utterly opposed to the boasted liberty of the subject. Prima facie, the thing is glaringly absurd, that venders of drugs should be made the judges of articles, furnished by *rival traders*.

With respect to the late regulations of the Company, on which subject we have many letters, we have already expressed our opinions. Well, indeed, might Napoleon exclaim, that the English were but a nation of shopkeepers, when we reflect, that the sacred trust of regulating and superintending medical education, is *here* placed in the hands of an ignorant herd of drug dealers.

An *Occasional Contributor* laments the want of means in our public charities, for giving to the sick the advantages of *locomotion* in the open air, so essentially beneficial in many diseases.

The *Per-centage* system alluded to by our correspondent, F.P., from Cheltenham, as existing between a certain physician and druggist of that town, is truly disgraceful.[1]

[1] Excerpts from "a compendium—a digest of the mass of correspondence now lying before us" entitled "Excerpta quædam; ex Epistolæ Amicorum."

THE ADULTERATION OF SILK WITH TIN AND OF FLANNEL WITH EPSOM SALTS.

So long ago as 1899 this subject received attention in our columns when the results of a detailed examination, carried out in THE LANCET Laboratory, of a large number of dress materials were published.[1] Analysis showed that what in wearing apparel may fairly be regarded as foreign matter was frequently present in considerable quantity and it was pointed out that many of these mineral substances, although apparently insoluble under ordinary conditions, were in most cases rendered soluble by the action of perspiration. Consequently, there was risk that poisonous substances might be brought into intimate contact with the skin under conditions favourable to their absorption. Although only insignificant traces of arsenic were discovered, zinc, aluminium, chromium, tin, magnesium, and iron were found, and, calculated upon the total weight of material sufficient to form a dress, it was found that the mineral matter present varied from one-tenth of an ounce to as much as nearly six ounces. Recent experiments made in THE LANCET Laboratory upon a number of samples of silk bought in the ordinary way at West-end drapery establishments would seem to show that the evil in question has certainly not diminished since the former article on the subject appeared; in fact, recent inquiries indicate that the loading and adulteration of fabrics have during the last few years become a very serious question for the community.

The adulterant found in the samples of silk recently examined is stannic salt and the quantity present in one case was nearly 36 per cent. The following is a list of some of the actual amounts discovered, from which it will be seen that although there was considerable variation in the quantities of tin present none of the samples examined was guiltless of the adulterant.

Analyses of Six Pieces of Silk.

Piece.	Percentage of total mineral matter.	Percentage of tin calculated as stannic oxide (SnO_2).	Percentage of real silk present.*
1	34·00	29·00	57·36
2	34·30	29·80	55·70
3	24·20	19·50	60·00
4	42·40	31·60	50·00
5	42·40	31·60	50·00
6	47·10	35·90	50·00
Averages...	37·40	29·60	53·84

* The percentage of real silk present is calculated from the amount of nitrogen present, 18 per cent. of which represents 100 per cent. of silk. The nitrogen therefore multiplied by 5·5 gives the real silk present.

The adulteration of silk has now become such an established "industry" that a short statement of the process by which it is effected may prove interesting. One of the principal substances composing raw silk and one which may be considered as the active substance in the silk is known as sericene. This has a slightly acid reaction and a power of combining directly with metallic oxides and basic dyes and advantage is taken of this fact to weight cheap silks to an enormous extent with tin. The method of procedure is to soak the silk for several hours in a solution of stannic chloride, after which the fabric is passed through a cold solution of carbonate of soda to set free the tin in a basic condition, so that it can combine with the sericene. A bath in neutral soap solution to make the fibre supple and to increase its affinity for more weighting material follows and the fabric is now ready to take another turn in the tin bath. Three passages through this process will increase the weight of the silk by from 25 per cent. to 30 per cent., six by 50 per cent., seven by 75 per cent., eight by from 90 per cent. to 100 per cent., and ten by about 160 per cent. The weighting process is carried out in darkened rooms, as sunlight or any strong light renders the silk brittle during these operations. Although the strength of the fibre is greatly reduced the appearance and lustre of the silk do not seem to be affected seriously for the time being. All goes well so long as the fabric is kept in the dark, but as soon as it is worn the light decomposes the compound of the tin and the sericene, producing oxide of tin and free acids, which rapidly destroy what is left of the fibre, so that a garment of weighted silk will tear in the wash under ordinary handling, especially under the armpits where the effect of perspiration has been added to the other destructive agencies. As this cheap silk is used not only for dress-making *per se* but as lining for other dress materials, it frequently comes in contact with the skin, and even in cases where underclothing may protect the skin from immediate contact with the silk there is always the risk that perspiration may set free the oxide of tin in a soluble form and by its absorption by the other materials bring it in direct contact with the skin, so that the wearer of such material runs considerable danger of local irritation being set up, if nothing worse.

Before passing on to other materials we must call attention to a particularly obnoxious method which is in use for colouring, we cannot call it dyeing, the cheap materials used for linings and similar purposes. In this case the dye is made up into a kind of paste with some sizing material and instead of the fabric being properly dyed this coloured size is spread over the surface by rollers. When dry it has a perfect appearance and the fraud is not distinguished until the fabric is brought in contact with moisture, either in the wash or through perspiration, when the dye practically leaves the fabric. Although it is true that the majority of the dyes derived from aniline and what are known generally as coal-tar colours are very much faster to light than they used to be, the lack of fastness to soap and water, which many of the materials at present in use exhibit, is a source of serious complaint from laundrymen and those who have to handle them. A suit of flannelette pyjamas, upon which we recently made some experiments, was of a very pleasant blue shade when purchased but in two washings the colour was completely removed. Instances of this kind might be multiplied almost indefinitely from other instances which have come under our own experience or have been brought to our notice by laundrymen from whom we have made inquiries.

The loading of fabrics intended for wearing apparel is by no means confined to silk and is such a serious factor in the manufacture of the cheaper varieties of flannel, amongst which we may include blankets, that in sorting the various articles which come into the laundry before going through the cleansing process a laundryman has to be very careful to pick out any new goods of this description and to wash them separately, otherwise the large amount of loading material which they contain might interfere so seriously with the washing process as to necessitate a second washing of a whole batch of goods. This is even more true of the cotton bands, &c., attached to the woollen materials, which usually receive separate treatment. This weighting of material is so serious in almost every department that it is quite a revelation to see the quantity of loading material, largely china clay, which is washed out of cheap table linen and similar goods and to observe what a very little of the apparently stout fabric appears to be left after contact with water for a few minutes. We must recall also that in our previous investigation into the amount of mineral matter in dress fabrics we discovered considerable proportions of Epsom salts and zinc compounds in flannel.

It would be bad enough if the sophistication of fabrics were confined to loading them, but unfortunately this is not the case. The modern manufacturer in many instances adulterates the fibre of his fabric first and loads it afterwards. Silk is adulterated with artificial silk made from cellulose, flannel and woollen material with cotton, linen with cotton, whilst "mercerised" cotton is employed in many ways. Some of these mixtures of fibres are quite legitimate, but a good many are not, and amongst the most serious of which the community has to complain at the present time is the adulteration of linen with cotton. The substitution of cotton for linen has become so serious that the Irish flax spinners have been compelled to take action in self-defence and prosecutions of retailers have occurred in most of our principal towns. They form very interesting reading for they show that a certain section of the retail trade has become so lost to a sense of right and wrong that it is seriously claiming that

[1] THE LANCET, Oct. 28th, 1899, pp. 1186-87.

the passing-off of cotton goods for linen is a trade custom and therefore justifiable. The common practice seems to be to sell cotton shirts or collars or "fronts" made of one-ply linen and two-ply cotton, or in other proportion according to the nature of the garment. In many cases these were actually sold as "all linen" and so described on the invoice.

In a recent prosecution at Bradford the manager of a firm seriously contended that the word "linen" was the trade term for linen-fronted goods and that it did not necessarily imply that in their trade the goods so described were all flax. In reply to a question from the stipendiary magistrate the witness admitted that he had not a single all-linen collar in his place—not one that he would guarantee to be pure linen. A defendant at another court remarked that he did not believe that anyone present was wearing an all-linen collar; he felt quite sure that the prosecuting inspector's collar was cotton; and so on.

Now, whatever may be the hygienic difference between cotton and linen, there is a large difference in the cost and in the wearing capabilities. Cotton fabrics disintegrate comparatively readily, the fibre being much shorter than linen, whereas linen has a long and very strong fibre. The consequence is that cotton fabrics contribute rapidly to the formation of that fluff which is the bugbear of the modern housewife. The table linen not so very long ago consisted wholly of linen; nowadays a large proportion of it consists of a cotton warp and a linen weft and sometimes it is entirely of cotton. In the wash the difference soon becomes apparent; an appreciable amount of fibre becomes separated from the surface of the cotton fabric, and although a certain amount is removed in the rinsings yet a large proportion remains clinging to the materials when dry. In use this soon becomes separated and adds appreciably to the dust and dirt of the living-room. In some of these loosely woven table cloths, which are sent out felted together with size, starch, and china clay, so that they look thick and solid, the fluff is so serious that if a laundryman happens by misfortune to wash one in a batch with other table linen it will contaminate the whole, and the unfortunate customer who uses good table linen is horrified to think that the laundryman is destroying her expensive fabrics in the most ruthless manner. The wholesale adulteration of linen has become so serious that a large linen shop in the West-end of London is, or was a short time since, placarded with notices to the effect that on account of the difficulty of distinguishing between cotton and linen the assistants were forbidden to give any kind of warranty. This notice is akin to the announcement by which many publicans evade the Sale of Food and Drugs Act—namely, by stating that spirits are sold as "diluted."

To take the case of flannels and woollens again: these are frequently adulterated with cotton and loaded, although in a different manner from cotton, but even amongst the numerous goods that are sold as natural wool and guaranteed unshrinkable many are found to which this term can only be applied in derision. On account of the construction of the fibre, woollen goods if not washed with great care are always liable to shrinkage, but unless they have been very badly treated this shrinkage should not be great if the fabric is properly shrunk in a soap liquor before the garments are made up. A large number of the garments now sold through the retail hosiers and linendrapers are not properly shrunk, even in the case of some which are largely advertised and are supposed to bear a high name for quality, the result being that the shrinkage is excessive. The wool fibre is covered with a number of serrations and these have a tendency to interlock and to pull the fabric closer and closer together, especially if during the washing process the fabric is subjected to serious changes of temperature, such as removing from hot water into cold, which causes the fibres to move. It has been discovered, however, that treatment of the fibre with hydrochloric acid will cause such an alteration in these barblets that the fibres have no longer a tendency to interlock, although they are not seriously affected in any other respect, and a large quantity of woollen underclothing which, to use the trade term, has been "kymoed" is now on the market.

Shrinkage is not confined to woollen goods, as cotton goods will sometimes shrink along the warp when being washed for the first time. In the modern power loom the fibres are often severely stretched in the direction of the warp and the fabric takes the first opportunity of recovering itself when moistened. On the other hand, we have been shown some samples of chintz which have been causing a veritable panic amongst the furnishing houses and dyers and cleaners. An ordinary width of this when wetted stretches two inches. The effect of this upon a suit of chintz furniture covering and the feelings of the housewife when she gets it home can readily be imagined.

Yet another very important difference between the old and the new style of fabric is in the length and strength of the fibres employed. The short staple wool, for instance, which is now largely woven into our garments, would have been discarded not many years ago and employed only for making felt, being regarded as too short to weave into satisfactory yarn. In cotton and linen, again, especially the latter, there is nothing like the care employed in selecting the fibres that there used to be, with the consequence that they break much more frequently in the weaving, apart from possessing much less intrinsic strength. Here again there is no time to knot the broken ends properly together but they are given a twist which secures them for the time being. As soon as the size is washed out of the goods when they go to the laundry many of these broken ends develop into holes and we have had a large number of tablecloths submitted to us for examination in which these holes could be traced in various stages of progress. Examination with an ordinary magnifying glass was quite sufficient to show what was wrong with the fabric. Bleaching, again, is conducted in a hurry and the methods employed are much more drastic than they used to be, with the natural result of a seriously weakened fibre.

From the instances which we have given above it will be seen that the trade in fabrics is in as bad a condition now as regards adulteration as was the trade in food and drugs when THE LANCET first stepped into the arena in 1850 to combat the demon of adulteration, and the question arises, What remedies can we propose? The only weapon that the public at present possesses is the Merchandise Marks Act, which penalises a trader for applying a false description to his goods. As applied to the drapery and hosiery trade, however, and regarded from the ordinary purchaser's point of view, this Act suffers from the defect that not only can a coach-and-four be driven through it but two motor-cars as well. Except where cotton is wrongly described as linen it is practically impossible to apply the Act to cases of deception in the sale of fabrics. The trader is much too wily to be caught in such a very loosely woven net as the Merchandise Marks Act. He simply applies some adjective to the word describing the material—he calls it "Chinese silk," "Cathay silk," "Carthaginian silk," anything but "silk"—and is safe. Similarly with flannel, it rarely appears in the linen-draper's window without some patriotic adjective—it is Welsh flannel, Scotch flannel, Irish flannel, but very rarely flannel; certainly not "pure flannel." However desirable it might be in theory to compel manufacturers and retailers to apply correct descriptions to their goods, it would hardly be practicable to compel them to placard their windows with such announcements as "Tin silks: all the rage," "Epsom-salted flannels," "China clay table linen," and so forth, however accurate such descriptions might be. It is equally impracticable to expect customers to demand a warranty with every yard of material which they buy, because, in the first place, they would not ask for it and in the second place they would not get the warranty if they did. Not long since we asked for a written guarantee at a certain wool-shop that the underclothing which we were about to purchase, although warranted in the firm's advertisements not to shrink, would not do so in reality but were refused on the ground that the firm did not know what laundry we were going to send it to. And this brings us to another very serious matter—namely, that the sophisticators of fabrics—manufacturers, wholesalers, and retailers together—are endeavouring to pass the responsibility for their misdeeds on to the unfortunate laundryman or dyer and cleaner who, in nine cases out of ten, is in no way to blame. The bad-wearing qualities of the table linen, which goes into holes on the first wash, the raw edges on the collars, the thinness of the blankets, and so forth, are attributed to the laundryman's chemicals and machinery, instead of to the fraudulent methods employed in the manufacture and sale of the goods. Ladies compare the wearing qualities of the linen that their mothers used to buy with that which they purchase themselves and put the blame on the laundries for the bad qualities of the latter. Good linen, for example, will wear well even in the modern laundry and in proof of this we were shown a handkerchief

not long ago which had gone regularly through the wash for almost a generation, including many years' washing in a modern steam laundry, and which appeared to be little the worse. Such things can hardly be bought nowadays, even if a purchaser is willing to pay a high price. To take the case of the tinned silk again, which we have recently analysed: the silk blouse which appeared so charming when new crumbles almost at once in the sun, the tin is converted into oxide, which is removed as powder in the wash, the acid attacks the fibre and causes it to go into holes as soon as it reaches the hands of the laundryman or dyer and cleaner, and when its once proud possessor receives back the rag which was once a blouse, her wrath is expended not upon the draper who sold it but upon the unfortunate dyer and cleaner to whom was intrusted the impossible task of rendering it equal to new.

In distributing the blame we must not place the whole of it upon the shoulders of the manufacturers and retailers, bad as they are, but must mete out a considerable share to the fair sex who in their desire to obtain showy materials at a cheap rate give direct encouragement to these objectionable practices. Every year the cry goes forth for something cheaper than last year that will look as well and the draper is only too ready to meet the demand and to encourage it. Nevertheless, it must be borne in mind that the sophistications are so skilfully conducted that they would deceive all but the expert, and the housewife with a limited purse can hardly be severely blamed if she buys at cheap prices goods which look all right. The real and most serious blame must be laid at the door of the manufacturer and retailer and the only way that we can see open at the moment to save the unfortunate customer from their devices is to educate her as rapidly as possible concerning the practices which are in vogue. This is certainly a large undertaking but so far as we can see it is the only way to grapple with the difficulty in the absence of some drastic legislative measure. One practice that we should certainly like to see prohibited at the earliest moment is the loading of fabrics of any kind with mineral matter—we do not include the mordants which may be necessary to fix the dyes on the material. This practice of loading goods with china clay and other materials was designed in the first instance to swindle the unsuspecting Hindoo who buys his cotton cloth by weight instead of by length and the practice has now spread to the greater part of the goods on the home market. Such loading, whether it be carried out in cotton, linen, or silk, serves no good purpose whatever; it is simply a fraud and is quite unjustifiable. Moreover, we are still of the opinion stated in our previous article that in addition to the actual danger to health caused by the presence of the irritant mineral poisons in dress fabrics, the presence of mineral substances generally "tends to nullify the important properties of clothing of keeping the body warm and protecting it from the cold and, above all, of allowing the free passage of air from within and without."

CHOLERA AND PLAGUE IN RUSSIA.

(FROM THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

THE following returns of cholera cases and deaths in the Polish governments of Russia are in continuation of those furnished in my last letter (THE LANCET, Dec. 9th, p. 1730).

From Oct. 6th (19th) to 13th (26th):—

In the government of	Lomza	5 cases	2 deaths.
,, ,,	Piotrkow	5 ,,	0 ,,
,, ,,	Warsaw	2 ,,	1 death.
,, ,,	Plock	1 case	1 ,,

From Oct. 14th (27th) to Oct 19th (Nov. 1st):—

In the government of	Lomza	5 cases	1 death.
,, ,,	Warsaw	1 case	0 deaths.
,, ,,	Piotrkow	7 cases	0 ,, and 5 suspected cases.

From Oct. 19th (Nov. 1st) to Oct. 22nd (Nov. 4th):—

In the government of	Lomza	1 case	0 deaths.
,, ,,	Lodz	6 suspected cases.	
,, ,,	Warsaw	3 ,,	,,

From Oct. 24th to 25th (Nov. 6th to 7th) there were 12 cases and 12 deaths in the Polish governments and one suspected case. On the 26th (Nov. 8th) three deaths occurred; from Oct. 27th (Nov. 9th) to Nov. 2nd (15th) there were 18 cases and nine deaths in the Lomza government; and between the 7th (20th) and the 8th (21st) there were 11 cases and two deaths in the same government. Finally, between Nov. 10th (23rd) and Nov. 30th (Dec. 13th) 24 cases and seven deaths were recorded in the Lomza government.

An outbreak of plague of considerable severity is reported from the Kirghiz steppes of the government of Astrakhan. The disease appeared among a number of Kirghiz settlements in the Naryn district, 250 versts (about 160 miles) from the Khanskaia Stavka. Between Oct. 13th (26th) and Nov. 2nd (15th), in ten settlements extending over an area of 50 versts, as many as 40 "*zemlianki*" (earth huts) became infected; and 58 persons were attacked by the disease, of whom 29 died. On Nov. 1st (14th) a suspected case occurred in the territory of the Koundrov Tartars in a person arriving from the Naryn district. A second report states that the number of infected "*zemlianki*" had risen to 71, of which 59 are in the Naryn district and 12 in the First and Second Primorskoi (or Maritime) districts. In the Naryn district 80 deaths had occurred from the disease up to Nov. 8th (21st) and in the two maritime districts 18 deaths had been recorded to the same date. Plague had also appeared in the settlement of Djandakul, in the district of Krasnoyar, where 14 deaths had been reported up to Nov. 9th (22nd).

The latest report received here states that between Nov. 12th (25th) and 17th (30th) there had been 33 cases of plague and 41 deaths in the Naryn district, three cases and five deaths in the first, and six cases with 16 deaths in the second maritime district. In the Taigoul community, in the Krasnoyar district, six cases and six deaths had been observed. The total number of cases in the Kirghiz steppe had been 293 and of deaths 279, while in the Krasnoyar district the cases numbered 23 and the deaths also 23. No further information has been received of the outbreak of plague on the Siberia-Manchurian frontier mentioned in my last letter.

Constantinople, Dec. 23rd, 190 .

BEQUESTS TO HOSPITALS IN THE BIRMINGHAM DISTRICT.—The late Mr. John Feeney, one of the proprietors of the *Birmingham Daily Post*, has bequeathed by his will sums amounting to £89,000 to various institutions connected with Birmingham and the district. These include the Birmingham Art Gallery, £50,000; the University of Birmingham, £20,000; the General Hospital, £10,000; and £1000 each to the Queen's Hospital, the General Dispensary, the Eye Hospital, the Women's Hospital, the Children's Hospital, the Blind Asylum, the Middlemore Emigration Homes, the Wolverhampton Infirmary, and the Coventry Hospital. All the above bequests are given free of legacy duty but payment cannot be claimed until the expiration of five years. The bequest to the University is for the purpose of maintaining a professor, with suitable equipment, lecturing on some one or more scientific subjects directly connected with some one or more of the trades and industries carried on in or near Birmingham. This bequest makes a total of £80,000 which the University has received within a period of little more than a month. Under the will of the late Mrs. Hannah Finnie of Malvern Wells £3000 are bequeathed to the Midland Counties' Home for Incurables. The Worcester Infirmary has lately benefited by the following legacies: £200 from Mr. Charles Taylor of Holloway, London, and £100 from Mr. George Arden of Towyn.

LITIGATION REGARDING THE VALUE OF A PRACTICE.—The case of Coumbe v. Davies was heard on Dec. 18th, 1905, in the King's Bench Division before Mr. Justice Channell. In this action Dr. J. B. Coumbe sued Mr. G. A. Davies for damages for losses caused by the alleged misrepresentation of the defendant in regard to the value of a medical practice which the plaintiff purchased from the defendant in Newport (Mon.) for £1600. The defendant said that the representations made were true and that the plaintiff was fully aware of all the facts when he bought the practice. The judge stated it would be necessary for Dr. Coumbe to call evidence in support of his charge of fraudulent misrepresentation. Mr. Shee, K.C., said that after the remarks of the judge he proposed not to persist in the charges and they would be withdrawn. Judgment was entered for the defendant with costs.

THE LANCET RELIEF FUND.

THIS Fund, which came into operation on the 1st of February, 1889, has for its Almoners the President of the Royal College of Physicians of London (Sir RICHARD DOUGLAS POWELL, Bart., K.C.V.O., M.D. Lond.), the President of the Royal College of Surgeons of England (Mr. JOHN TWEEDY), the President of the General Medical Council (Dr. DONALD MACALISTER, M.A., B.Sc., F.R.C.P.Lond.), Mr. THOMAS WAKLEY, F.R.C.S.Eng., and Mr. THOMAS WAKLEY, jun., L.R.C.P. Lond., with Sir HENRY PITMAN, M.D. Cantab., F.R.C.P. Lond., as Honorary Auditor.

Almoners.

FOR the guidance of those seeking assistance and of those desirous of recommending deserving cases, it may be useful to record that THE LANCET Relief Fund is sustained solely by the Proprietors of THE LANCET, who provide every January the sum of at least £300, which is administered free of cost, with the object of affording immediate pecuniary assistance to registered medical practitioners, or to their widows and orphans, in cases of distress and emergency, by the grant of money by way of loans free of interest, or gifts, as the circumstances of the various cases may require. In the case of widows and orphans, in order to come within the scope of the Fund, the death of the Husband or Father must have been of recent occurrence.

Scope of the Fund.

WHEN the Fund was inaugurated considerable misapprehension existed as to the precise objects for which it had been established, and, as a result, the majority of the earlier applications, being cases of *chronic* distress, and not coming, therefore, under the designation of *emergency*, could not be entertained. As the Almoners still receive applications for assistance for cases which are obviously of a *chronic* character, it is thought advisable to append a statement concerning cases of this nature which appeared in THE LANCET of Feb. 16th, 1889:—

Chronic Cases ineligible.

"We are requested by the Almoners to state that, from the character of a number of the applications received, both personally and by letter, for relief, it is evident that in many cases the object for which this Fund has been established is not quite clearly understood; and if relief had been afforded in the cases of those who suffer from chronic distress the Fund would have been completely exhausted within the first few days of its existence. They would therefore be greatly obliged if those readers of THE LANCET who may be asked to endorse applications would carefully peruse the Application Form and explain the precise object of the Fund to those applicants whose cases do not seem to come within the scope of the purpose for which the Fund has been established, which is to afford prompt aid to registered medical practitioners, or to the widows or orphans of members of the profession, who, in consequence of the supervention of some unexpected emergency, which is not likely to recur, have pressing need of immediate and temporary pecuniary relief"—

And who, it may be again pointed out, are likely to be benefited permanently thereby.

Seventeenth Annual Report of the Almoners,

For the year ending December 31, 1905.

IN presenting their Seventeenth Annual Report the Almoners have to record that the balance in hand on Dec. 31st, 1904, was £225 2*s.* 3*d.*, to which, on Jan. 1st, 1905, the Proprietors of THE LANCET added the sum of £300, making a total sum of £525 2*s.* 3*d.* available for grants during the year 1905.

The number of applications received by the Almoners during the year for assistance was 61, of which number nine were rejected by the Secretary as quite outside the scope of the Fund; seven were declined by the Almoners after due consideration; two applications were received on behalf of one person; 12 Application Forms failed to be returned—doubtless owing to the applicants realising that their cases were not of the nature qualified to receive assistance from the Fund; and 32 applicants were relieved by gifts or loans ranging from £5 to £25. The relief of these 32 cases, a detailed list of which is given in the accompanying Statement of Accounts, involved the expenditure of the sum of £313—an amount just above the normal income of the year. One of the cases relieved came from Australia. The balance at the bank on Dec. 31st, 1905, was £232 13*s.* 1*d.*

Many expressions of gratitude for the assistance afforded to applicants have been received by the Almoners; and it is a pleasure to record that in several instances the timely help that the Almoners have been able to give has been the means of averting consequences which could not fail to be disastrous to the applicants had their appeals not met with a ready response. In this connexion it may be mentioned that one case brought to the notice of the Almoners threatened the breaking up of a practice, and the ruin of the practitioner who had worked hard to keep it together during a period of depression, unless a sufficient sum were forthcoming to pay off pressing domestic creditors. Within three hours of the application being received the Almoners had considered the case, doubled the amount of help asked for, and saved the applicant and his family from having the means of their livelihood taken away from them. Several other instances of equally prompt relief might be cited; but they are referred to only in order to emphasise what is to the Almoners a pleasing feature of the Fund which they are called upon to administer—*immediate relief in urgent cases.*

Of applications of a "chronic" character there are still far

too many. A large number have again been rejected, and in some cases the inability of the Almoners to assist has produced anything but complimentary replies. It is quite obvious that the assistance which the Almoners could give would mean only a few days' or weeks' temporary respite to cases of this character—no permanent good could possibly be effected; and it cannot be too emphatically reiterated that THE LANCET Relief Fund exists to meet cases of *sudden emergency*, where timely help will tide the practitioner over unforeseen difficulties, or will afford his widow and orphans temporary relief at the moment of their greatest trial.

Sir Richard Douglas Powell, Bart., K.C.V.O., M.D. Lond., having succeeded Sir William Church, Bart., K.C.B., M.D. Oxon., as President of the Royal College of Physicians of London in April last, thereupon became an Almoner of the Fund, and kindly consented to act as such. The Almoners at their last Annual Meeting had pleasure in causing to be recorded on the Minutes their warm appreciation of the valuable services rendered to the Fund by Sir William Church throughout the six years during which he acted as one of the Almoners.

In conclusion, the Almoners desire to state that they will at all times be glad to have their attention called to any cases of genuine distress coming within the scope of the Fund but they trust that those recommending cases or giving testimonials will first take steps to satisfy themselves of the *bona fides* of such cases before endorsing them. In the administration of such a Fund as this the Almoners are of necessity largely guided in their decisions by the testimonials accompanying the applications.

(Signed) R. DOUGLAS POWELL. JOHN TWEEDY.
DONALD MACALISTER.
THOMAS WAKLEY, Jun. THOMAS WAKLEY.

January, 1906.

THE LANCET RELIEF FUND.

STATEMENT OF ACCOUNTS FOR THE YEAR ENDING DEC. 31st, 1905.

Dr.	£	s.	d.
To Balance at the London and Westminster Bank, Limited (Westminster Branch), Jan. 1st, 1905	225	2	3
,, Proprietors of THE LANCET, Jan. 1st, 1905 ...	300	0	0
,, Repayment of Loans :—			
Case No. 591	0	15	0
,, Cheque unpresented (Case No. 661)	20	0	0
	£545	17	3

Cr.	£	s.	d.	£	s.	d.
By Loans :—						
Case No. 643	12	0	0			
,, 652	25	0	0			
				37	0	0
By Gifts :—						
Case No. 630	6	0	0			
,, 631	5	0	0			
,, 632	5	0	0			
,, 633	5	0	0			
,, 634	10	0	0			
,, 635	5	0	0			
,, 636	15	0	0			
,, 637	5	0	0			
,, 639	10	0	0			
,, 640	10	0	0			
,, 641	10	0	0			
,, 642	10	0	0			
,, 644	10	0	0			
,, 645	10	0	0			
,, 647	10	0	0			
,, 648	10	0	0			
,, 649	10	0	0			
,, 650	10	0	0			
,, 651	10	0	0			
,, 653	5	0	0			
,, 57	10	0	0			
,, 658	10	0	0			
,, 659	10	0	0			
,, 660	10	0	0			
,, 661	20	0	0			
,, 662	15	0	0			
,, 663	5	0	0			
,, 664	5	0	0			
,, 665	10	0	0			
,, 666	10	0	0			
				276	0	0
,, Bank Charges. Cheque Book				0	4	2
Balance at Bank, Dec. 31, 1905 ...				232	13	1
				£545	17	3

I find by the Bankers' Book that the actual Balance on Jan. 1st, 1905, to the credit of the Fund was £225 2*s.* 3*d.*, to which the sum of £300 was added by the Proprietors of THE LANCET on Jan. 1st, 1905.

The balance at the Bank on Dec. 31st, 1905, was the sum of £232 13*s.* 1*d.* I have also checked the receipts for disbursements and find the above account strictly accurate.

January 1st, 1906. HENRY A. PITMAN, Hon. Auditor.

MEDICINE AND THE LAW.

The Fees of Medical Witnesses at Inquests.

AT Lydd recently at an inquest upon the body of a coastguard a discussion took place between the coroner and a medical man which had as its result the refusal of the medical man to give evidence after the coroner had taken a view of the law which appears to us to be entirely wrong. The coastguard had met with an injury, for which he was attended by Mr. J. A. Procter of Lydd until he appeared to be nearly well. Mr. Procter, however, asked him to come to see him once more on a day named and the man walked some distance to the surgery in order to do so. Mr. Procter had meanwhile been called away to attend a case elsewhere and had asked a medical friend, Mr. C. A. Gaitskell, to see the man in his absence. Mr. Gaitskell on going into the surgery after being informed that the patient was there found him lying on the ground with blood issuing from his nose and mouth and death took place before he could be removed. In these circumstances Mr. Procter was of opinion that the death was not the result of the accident mentioned above and refused to give a certificate to that effect. At the inquest (which, by the way, would have been rightly held in any case) he repeated this opinion and the jury very properly expressed a wish to hear what Mr. Gaitskell, who was with the deceased at the time of his death, might have to say. If they had also insisted on the necessity for a post-mortem examination in such circumstances they would have made an even more useful suggestion, but apparently none was ever held. Mr. Gaitskell arrived and asked before being sworn as a witness that his fee might be paid. In reply the coroner said that only one fee could be allowed to a medical witness and this, as one was already due to Mr. Procter in respect of the evidence which he had given, meant that Mr. Gaitskell would receive nothing. The coroner appears further to have expressed surprise at the question being raised and to have given vent to the observation that the medical man's conduct was ungentlemanly. Mr. Gaitskell upon this declined to give evidence and the only other statement of the coroner which merits comment is one reported in the *Kent County Examiner* to the effect that in 40 years' experience he had never had a similar case. As the coroner referred to so long an experience he may have explanations to give as to what occurred at this inquest which are not before us, but we may point out that the verdict which the jury delivered was, in the absence of post-mortem examination and in the teeth of the opinion expressed by Mr. Procter, arrived at practically by conjecture on their part and not founded upon evidence. They found that the coastguard died "from internal hæmorrhage caused by injuries received by the deceased by the overturning of a boat" and added a rider recommending that the medical officer should visit coastguards when ill instead of their going to him. They had not before them any evidence as to whether this contributed in any way to the death or even as to how or where the death took place, for of course the statement of Mr. Procter of what Mr. Gaitskell, and perhaps others, had no doubt perfectly accurately described to him was not evidence at all. With regard to the discussion between the coroner and Mr. Gaitskell as to the latter's fee, we are inclined to think that his better course would have been to have given evidence and then to have brought an action to recover the fee due to him as a medical witness if it was not paid. The Coroners Act, 1887, contains nothing whatever to indicate that only one medical witness may be called and paid by the coroner. On the contrary, it says (Section 21) that "where it appears to the coroner that the deceased was attended at his death or during his last illness by any legally qualified medical practitioner the coroner may summon such practitioner as a witness." That is to say, in other words, any medical practitioner who has attended the deceased in his last illness may be called to give evidence. By Section 22 "a legally qualified medical practitioner who has attended at a coroner's inquest" as provided by the section quoted "shall be entitled" to the prescribed remuneration. If anything so absurd as the calling of one medical man only were intended, when the truth might be better ascertained by calling two, some expression which would put this beyond doubt could easily have been used. In the statute, moreover, which this section superseded (6 & 7 Will. IV., c. 89, repealed by the Act of 1887), the direction with regard to a post-mortem examination is that it is to be intrusted to "the medical witness or witnesses who may be summoned to attend" at any inquest, so that if the Act of 1887 were to have introduced intentionally a new restriction of the medical evidence to one witness it would be retrogressive in its effect. It is not necessary to demonstrate that the usefulness of the coroner's inquest would be considerably curtailed if he could only call one medical witness in any case, considering that the subject of the inquiry is the cause of death, where death has been apparently violent or unnatural, or a "sudden death whereof the cause is unknown."

Medical Evidence at Inquests and the Coroner for Anglesey.

A second inquest calls this week for notice in our regular summary of medico-legal events. The *Liverpool Courier* recently contained a report of an inquiry conducted, upon lines which are fortunately unusual, by Mr. R. Jones Roberts, coroner for Anglesey. A maiden lady living alone was found at the foot of the stairs in her house groaning and unconscious. She was attended by two medical men and died a short time afterwards. It will perhaps surprise those who read of this to learn that at the inquest two witnesses only were called, a child aged 14 years and a woman, both of whom knew no more about the matter than that they saw the deceased on a certain day lying on the ground, for she lived alone. When a juror afterwards asked whether any medical evidence would be called, the coroner said that "they would be no better off if they had it," and further that "it was not usual to call medical evidence in such a case. It was not absolutely necessary for the jury to know the cause of death. It was sufficient for them to say what their opinion was." To this he added some observations relating to the medical profession of a disparaging character and ended by giving as his motive in acting as he did the desire to save the money of the county, for which he described himself as a trustee. The statement that it is not usual to call medical evidence in such a case may be traversed without further comment. With regard to the duty of the jury they have "to inquire" as jurors touching the death and to certify, so far as such particulars have been proved to them, who the deceased was and how, when, and where he came by his death, and they have to find "the particulars for the time being required to be registered concerning the death." The coroner has a discretion, it is true, as to what witnesses he may examine but he is also responsible to the Crown for the proper conduct of inquests, and it is his duty to call the best evidence available as to the cause of death and not to leave the jury to form an "opinion" founded upon conjecture. If through the deliberate omission of a coroner to call a material witness, whether medical or not, a failure to arrive at a correct verdict were to take place the coroner might find his responsibility brought home to him in a serious manner.

Quackery among East-end Aliens.

We have before us an advertisement appearing in the *Jewish Journal*, a newspaper printed in Yiddish and having a considerable circulation among the poorer classes of Jews living in the East-end, or, as passages in the advertisement speciously suggest, passing through it on their way to the United States. Our American cousins do not welcome the diseased foreigner as warmly as we do and consequently the advertiser promises "Ease for those who intend to emigrate to America." Beyond this there are features in the advertisement to which attention may well be called, although the fact of it being printed in a foreign language and addressed to foreigners points to difficulties in the enforcement of the law such as it is. The last line is printed in English and describes the advertiser as "Dr. Leibovitz, 60, Mile End-road." Addressed to an English audience the use of the title "Dr." would certainly be dangerous for the gentleman named unless his qualifications were of a nature to justify it. The Yiddish part of his advertisement claims for him diplomas from New York and registration in the 31st District of Columbia. It also contains an allusion to the preparation of medicines "in his laboratory under the supervision of a qualified doctor." To what extent our translation may justify the suggestion that this would furnish a case for inquiry is a matter for the consideration of those concerned in protecting the poor from deception by persons of this class who advertise as this man does, that he will send his "new book on venereal diseases" to the residence of any who may send 3*d.* in stamps in payment and that he is ready to "perform operations without a knife and without any hæmorrhage."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 6415 births and 5197 deaths were registered during the week ending Dec. 30th, 1905. The annual rate of mortality in these towns, which had been 16·1, 17·0, and 17·8 per 1000 in the three preceding weeks, declined again to 17·4 per 1000 last week. In London the death-rate was 17·8 per 1000, while it averaged 17·2 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 7·5 in King's Norton, 8·1 in Hornsey, 10·1 in York, 10·7 in Reading and in Walsall, 11·7 in Wallasey, and 11·9 in Burton-on-Trent; the highest rates were 21·5 in Burnley, 22·3 in Newcastle-on-Tyne, 22·4 in Tynemouth, 24·2 in Huddersfield, 24·8 in Preston, 24·9 in Liverpool, 25·4 in Merthyr Tydfil, and 30·6 in Hanley. The 5197 deaths in these towns last week included 404 which were referred to the principal infectious diseases, against 373, 391, and 439 in the three preceding weeks; of these, 404 deaths, 117 resulted from measles, 91 from whooping-cough, 69 from diphtheria, 56 from diarrhœa, 43 from scarlet fever, and 28 from "fever" (principally enteric), but not any from small-pox. No death from any of these diseases was registered last week in Southampton, Northampton, Great Yarmouth, Devonport, Burton-on-Trent, Walsall, King's Norton, Bootle, Warrington, York, or Stockton-on-Tees; while the highest death-rates from the principal infectious diseases were recorded in Coventry, Stockport, Burnley, Blackburn, Preston, Leeds, Middlesbrough, Newcastle-on-Tyne, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Blackburn, Preston, and Leeds; from diphtheria in Middlesbrough and West Hartlepool; from whooping-cough in Rochdale, Burnley, and Newcastle-on-Tyne; from "fever" in Stockport and Wigan; and from diarrhœa in Coventry, Oldham, and Middlesbrough. The mortality from scarlet fever showed no marked excess in any of the large towns. No death from small-pox was registered last week in any of the large towns and no cases of this disease were under treatment during the week in the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 3688, 3670, and 3409 at the end of the three preceding weeks, had risen again to 3446 at the end of last week; 295 new cases were admitted during the week, against 355, 341, and 295 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 376, 460, and 516 in the three preceding weeks, declined again last week to 426 and were 95 below the number in the corresponding period of last year. The causes of 79, or 1·5 per cent., of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Portsmouth, Nottingham, Salford, Bradford, Leeds, Newcastle-on-Tyne, and in 41 other smaller towns; the largest proportions of uncertified deaths were registered in Ipswich, Handsworth (Staffs.), Birmingham, Liverpool, Bootle, St. Helens, Manchester, Sheffield, Sunderland, South Shields, Gateshead, and Rhondda.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 19·9, 18·2, and 17·4 per 1000 in the three preceding weeks, rose again to 18·2 per 1000 during the week ending Dec. 30th, and was 1·8 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 15·2 in Paisley and 15·4 in Leith to 19·3 in Aberdeen and in Greenock and 22·9 in Dundee. The 609 deaths in these towns last week included 25 which were referred to measles, 14 to diarrhœa, 12 to diphtheria, seven to whooping-cough, four to "fever," and three to scarlet fever. In all 65 deaths resulted from these principal infectious diseases last week, against 77, 64, and 83 in the three preceding weeks. These 65 deaths were equal to an annual rate of 1·9 per 1000, which was 0·6 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been 45, 31, and 43 in the three preceding weeks, declined again last week to 25, of which 15 occurred in Glasgow, six in Dundee, and three in Greenock. The deaths from diarrhœa, which had been 11, 18, and 15 in the three preceding weeks, further declined to 14 last week, and included five in Glasgow, three in Edinburgh, and three in Dundee. The fatal cases of diphtheria, which had been five, three, and 11 in the three preceding weeks, further rose last week to 12, of which five were registered in Glasgow, two in Dundee, and two in Greenock. The deaths from whooping-cough, which had been eight, six, and nine in the three preceding weeks, declined again to seven last week, and included three in Glasgow and two in Dundee. The fatal cases of "fever," which had been one, two, and four in the three preceding weeks, were again four last week, and included two in Glasgow, and two in Paisley. The deaths referred to diseases of the respiratory organs in these towns, which had been 126, 117, and 130 in the three preceding weeks, declined again last week to 99 and were 85 below the number in the corresponding period of last year. The causes of 18, or nearly 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 22·0, 19·7, and 22·3 per 1000 in the three preceding weeks, declined again to 17·9 per 1000 during the week ending Dec. 30th. During the 13 weeks of the quarter ending on that date the death-rate averaged 20·4 per 1000, the rates during the same period being 16·8 in London and 16·2 in Edinburgh. The 130 deaths of persons belonging to Dublin registered during the week under notice were 32 below the number in the preceding week and included seven which were referred to the principal infectious diseases, against eight, five, and seven in the three preceding weeks; of these, three resulted from "fever," two from diarrhœa, one from diphtheria, and one from whooping-cough, but not any from small-pox, measles, and scarlet fever. These seven deaths were equal to an annual rate of 1·0 per 1000, the death-rates from the principal infectious diseases last week being 1·6 in London and 0·9 in Edinburgh. The fatal cases of "fever," which had been two, one, and four in the three preceding weeks, declined again to three last week. The 130 deaths in Dublin last week included 18 of children under one year of age and 41 of persons aged 60 years and upwards; the deaths of infants were 13 fewer than the number in the preceding week, while those of elderly persons showed but a slight decline. Six inquest cases and six deaths from violence were registered, and 56, or more than a third, of the deaths occurred in public institutions. The causes of six, or nearly 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Inspector-General of Hospitals and Fleets Herbert Mackay Ellis, K.H.P., Director-General of the Medical Department of the Royal Navy, has been granted the relative rank of Vice-Admiral in His Majesty's Fleet (dated Jan. 1st, 1906).

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Staff-Surgeon Henry Newport Stephens has been allowed to withdraw from His Majesty's Naval Service, with a gratuity.

The following appointments are notified:—Staff Surgeon W. J. Codrington to the *Isis*, on recommissioning. Surgeons: K. D. Bell to the *Isis*, on recommissioning; A Bradley, lent to Portland Hospital; and W. T. Haydon to the *Actæon*.

ROYAL ARMY MEDICAL CORPS.

Major H. A. Hinge, adjutant of the depôt and training school at Aldershot, is placed under orders for India. Colonel W. E. Saunders, C.B., R.A.M.C., is appointed to officiate as principal medical officer, Eastern Command, India, *vice* Surgeon-General W. L. Gubbins, C.B., proceeding home on leave. The following officers proceed to India for a tour of service this month: Lieutenant-Colonel A. E. Morris, Captain A. H. Waring, Lieutenant R. H. L. Cordner, and Lieutenant R. P. Nash. Lieutenant A. A. Meaden is granted an extension of sick leave until March next. Captain J. J. W. Prescott, D.S.O., assumes the duties of

medical officer in charge of troops and of recruiting, Mutley Barracks, Plymouth.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 2nd Cinque Ports: Surgeon-Captain C. R. Skyrme resigns his commission (dated Dec. 30th, 1905).

Rifle Corps: 1st Volunteer Battalion, the Northumberland Fusiliers: Surgeon-Major D. Stewart is granted the honorary rank of Surgeon-Lieutenant-Colonel (dated Dec. 30th, 1905). 2nd Volunteer Battalion, the King's (Liverpool Regiment): Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel G. Westby (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Liverpool Volunteer Infantry Brigade) resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated Dec. 30th, 1905). 3rd Volunteer Battalion, the Lincolnshire Regiment: Surgeon-Lieutenant-Colonel F. J. Walker is granted the honorary rank of Surgeon-Colonel (dated Dec. 30th, 1905). 1st Volunteer Battalion, the Leicestershire Regiment: Surgeon-Lieutenant-Colonel R. B. Smith (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Leicester and Lincoln Volunteer Infantry Brigade) is granted the honorary rank of Surgeon-Colonel (dated Dec. 30th, 1905). 3rd Lanarkshire Volunteer Rifle Corps: Surgeon-Captain T. Forrest, to be Surgeon-Major (dated Dec. 30th, 1905). 3rd (Duke of Connaught's Own) Volunteer Battalion, the Hampshire Regiment: Surgeon-Major E. J. Hunter (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Hampshire Volunteer Infantry Brigade), to be Surgeon-Lieutenant-Colonel (dated June 13th, 1904). The undermentioned Surgeon-Lieutenant-Colonels are granted the honorary rank of Surgeon-Colonel:—C. Knott (dated Dec. 30th, 1905) and E. J. Hunter (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Hampshire Volunteer Infantry Brigade) (dated Dec. 30th, 1905). 1st (Renfrewshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Major T. Philip to be Surgeon-Lieutenant-Colonel (dated Dec. 30th, 1905).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Lancaster and Border Bearer Company: Supernumerary Surgeon-Captain W. B. Cockill, from the 2nd (Westmoreland) Volunteer Battalion, the Border Regiment, to be Captain, and to command (dated Dec. 30th, 1905).

NEW YEAR HONOURS.

The King has appointed Surgeon-General Richard Browne, I.M.S., Surgeon-General with the Government of Madras, a Companion of the Order of the Indian Empire, and has awarded "the Kaisar-i-Hind Medal for Public Service in India" of the first class to Lieutenant-Colonel Robert Shore, I.M.S. (Bengal), Residency Surgeon, Mowar.

DEATHS IN THE SERVICES.

Captain James Valentine Roche, R.A.M.C., on Nov. 26th, 1905, through injuries received while riding in the recent Army Cup race at Lucknow, India. He entered the service in 1901 and was promoted captain in 1904. He served in the South African war in 1901–02, including operations in the Transvaal, Orange River Colony, and Cape Colony (medal with five clasps). The deceased officer was 29 years of age.

GERMANY AND THE JAPANESE PRISONERS OF WAR RETURNING FROM RUSSIA.

The Japanese newspapers are full of praise for the exceptional kindness shown by the German Red Cross Society to the Japanese prisoners of war, who, to the number of nearly 2000, recently passed through Germany *en route* for home *vid* Hamburg, after one and a half years' imprisonment in Russia. The German arrangements for the transport and care of the wounded, of whom there were 64, were uniformly excellent. On the Prussian State railways there are four classes of carriages, those of the fourth class being without compartments and having a wooden bench fixed round the interior, the entrances being at either end. For the first time the experiment was tried of fitting up fourth class carriages as hospital wagons with complete success. These carriages are connected with the heating apparatus of the train and therefore make far better hospital wagons than the goods trucks which were formerly used for the purpose and which in winter time could only be heated in an unsatisfactory manner by means of portable stoves. The German Red Cross Society sent men to Wirballen on the Russian frontier to fit up the hospital carriages of the train which was to convey the prisoners to Hamburg, where they were to embark on specially chartered steamers for Japan. These carriages were provided with beds of the so-called Linz-Weilier pattern placed one above another two deep, like sleeping berths on board ship, and a number of folding-tables, bedroom commodes, and bedpans were also supplied, together with a stock of lint, plaster, and other surgical dressing materials. Some of the men who were very seriously ill, suffering from pneumonia, pleurisy, and tuberculosis, travelled in a darkened carriage and were constantly attended by some of the 53 Japanese Red Cross male nurses who had accompanied the prisoners during their internment in Russia. Eight prisoners suffering from tuberculosis were placed in an isolated carriage and five of this number died before Berlin was reached. The remaining three stayed at Berlin, while their carriage was uncoupled to take them to Grabowersee, where they visited the sanatorium (*Lungenheilstätte*). At each station at which the train stopped on the line between Wirballen and Berlin German Red Cross attendants were waiting with food and delicacies of various kinds for the men. Some of the Japanese were very badly crippled through amputation; one man, indeed, had had both his legs and arms removed and another had lost his foot through frostbite sustained in the terrible severity of a Manchurian winter. This practical sympathy shown by the German Red Cross Society to sick and wounded foreigners passing through Germany is a good illustration of what such societies may do for the relief of suffering, the encouragement of international amity, and the benefit of the world at large.

THE NEW UNDER SECRETARY FOR WAR ON THE ARMY.

We are very glad to notice that the Earl of Portsmouth, speaking last week at a Liberal meeting in Hampshire, intimated that it would be the endeavour of the War Minister and himself to conduct War Office affairs as far as possible on non-party lines. As our readers know, THE LANCET has nothing to do with politics beyond desiring to see, of course, that all questions affecting the medical services and profession have due consideration and lead up to wise and statesmanlike conclusions regarding them. Lord Portsmouth said in the course of his speech that our efforts ought to be to make the army, so far as possible, part of the national life of the country. In its peculiar position, the nation must depend very largely upon its reserve forces which must be properly developed and encouraged. It was the intention of those in power at the War Office to do the best they could for the army, without fear or favour, and without regard to any party considerations.

POST-GRADUATE CLASSES IN MILITARY SURGERY: AN INTERESTING DEPARTURE.

Many members of the West London Medico-Chirurgical Society having expressed a wish for instruction in the special work of military surgeons so that they may be in a position to render aid in time of war, the Director-General of the Army Medical Department has arranged for a short course of lectures and demonstrations to be given at the West London Hospital on alternate Saturdays at 4 P.M., commencing on Jan. 20th. An endeavour will be made to give a broad and practical view of the subject without going too much into detail. Medical men residing in West London, whether members of the society or not, who may wish to attend the course, which is free, are requested to apply by letter to Mr. H. W. Chambers, 101, Goldhawk-road, London, W. The course is under the direction of Colonel H. E. R. James, R.A.M.C., superintendent of the Royal Army Medical College, and the size of the class will necessarily be limited.

TREATMENT OF MILITARY PATIENTS AT EXETER.

The Exeter Sanitary Committee has entered into an agreement with the military authorities for the reception of military patients suffering from infectious diseases at the Exeter Sanatorium. The military authorities are to pay 25*s.* weekly for each patient, 8*s.* for the removal or discharge of each case, and in case of death to defray the expenses of interment. The committee reserves to itself the right to refuse the admission of any patient if the sanatorium is full.

Lieutenant-Colonel R. H. Charles, I.M.S., professor of surgery at the Medical College, Calcutta, is specially attached to the suite of the Prince of Wales for his Royal Highness's Indian tour.

In connexion with proposals for the improvement of the food of the soldier, more particularly in the field, it has been decided to form a class for officers at the Army School of Cookery, Aldershot.

Correspondence.

"Audi alteram partem."

THE PROPOSED AMALGAMATION OF THE LONDON MEDICAL SOCIETIES.

To the Editors of THE LANCET.

SIRS,—Dr. G. Steele-Perkins has found a great mare's nest concerning the proposed amalgamation of the London medical societies, about which he wrote to you in your issue of Dec. 23rd last. He would not have done so had he asked any member of the general committee of representatives or any official of the Royal Medical and Chirurgical Society about the scheme. The report to which Dr. Steele-Perkins refers was a preliminary scheme which was referred to the various societies for their views. It was drawn up by representatives of all societies and certainly was not intended to favour any one society. It is the belief that the majority of members will become Fellows that augurs so well for the success of the scheme. On p. 4 it is expressly stated that "every member of the societies which amalgamate shall have the option of joining the new society," and on pp. 2 and 3 a reference is made to the expectation that many who are now only members of the joining societies will become Fellows of the new society.

It is proposed that the property of the new society shall be vested in the Fellows, who will consist at first of all members who are willing to pay 3 guineas annually, and Dr. Steele-Perkins is entirely in error in stating that the only Fellows will be those Fellows of the Royal Medical and Chirurgical Society who have already compounded their subscriptions.

Some of the inconsistencies of the tentative scheme to which Dr. Steele-Perkins draws attention will require consideration and adjustment later when the details will have to be worked out, such, e.g., as to what should be the subscription of a Fellow who has already compounded for an annual subscription of 1 guinea in a society; but these are of minor importance and can be kept till the new society is formed. Further consideration will, I feel sure, convince Dr. Steele-Perkins that his fears are unfounded and they certainly never occurred either to the general committee which drew up the scheme nor to the council of the society referred to that only suggested certain alterations in detail.

I am, Sirs, yours faithfully,

Portland-place, W., Jan. 2nd, 1906. G. NEWTON PITT.

SIR JOHN BATTY TUKE AND THE MEDICAL PROFESSION.

To the Editors of THE LANCET.

SIRS,—The action of Sir John Batty Tuke in leaving the meeting of the General Medical Council on the occasion of the discussion on the Rusholme Dispensary has given rise to a misapprehension which might operate unfairly against his candidature for the Universities of St. Andrews and Edinburgh, and the Medico-Political Committee of the British Medical Association has instructed us to state the facts of the case. These are:—

1. That Sir John Batty Tuke left the meeting by special permission of the Chairman and at the request of the British Medical Association for the purpose of introducing to the President of the Local Government Board the deputation in support of the Public Health Bill prepared by the Association to give security of tenure to medical officers of health.

2. That this had been arranged before it was known that the discussion on the Rusholme Dispensary would be taken at that time.

The Central Council has given instructions that in the case of every Member of Parliament who has conspicuously supported or opposed the policy of the profession in Parliament, and is a candidate, particulars of his action should be furnished to each medical constituent. As this could not be done by circular in the case of university constituencies, we take the present opportunity of making it known to the profession that Sir John Batty Tuke has supported the British Medical Association on every occasion on which such support has been sought.

We are, Sirs, yours faithfully,

R. C. BUIST,
Chairman of the Medico-Political Committee of the British Medical Association.

C. H. W. PARKINSON,
Chairman of the Public Health Committee of the British Medical Association.

ASSOCIATION OF MEDICAL MEN RECEIVING RESIDENT PATIENTS.

To the Editors of THE LANCET.

SIRS,—There is reason to believe that there are many medical practitioners in all parts of the country, particularly in health resorts, who have facilities for the reception of invalids into their houses for treatment. Such practitioners may not be aware that there has been in existence for some time a coöperative "Association of Medical Men Receiving Resident Patients" which it might be advantageous for them to join. Full particulars may be obtained from the honorary secretaries of the association, 18A, Hanover-street, Hanover-square, London, W., or Bodorgan Manor, Bournemouth.

I am, Sirs, yours faithfully,

Bournemouth, Dec. 29th, 1905. G. E. J. CRALLAN.

A CASE OF CLAY-COLOURED STOOLS WITHOUT JAUNDICE BUT ATTENDED WITH COPIOUS BILIOUS VOMIT.

To the Editors of THE LANCET.

SIRS,—After Mr. A. W. Mayo Robson's appeal to exact analyses the letters of Dr. P. J. Cammidge and Mr. F. A. Watkins come as a surprise. One naturally looked for figures, but none are forthcoming. Dr. Cammidge divides his results of analyses into six statements. Before dealing with them it is necessary to recall the precise question at issue. It is this. I have strongly disagreed with the opinion that "the characteristic white stools often seen in pancreatic disease in the absence of jaundice *owe their pale colour entirely to the solidification of the fat when the motion cools*, although there may be a normal amount of bile entering the intestines." (The italics are mine.) With this kept in mind, three of Dr. Cammidge's six statements may be quickly dealt with. No. 1 proves nothing, for the excess of fat and defect of colour may both be due to a common cause, not one to the other. No. 2 proves nothing, for no one has suggested that the pale colour may not be *partly* due to the quantity of fat present or to its quality. No. 6 also proves nothing, for in such cases also pigment may be diminished.

The other three statements require more detailed scrutiny. No. 5 is indeed a quantitative statement but the essential comparison with the normal is omitted. The first part of this statement also is not in accordance with other observations to which I shall presently allude and the second part is opposed to the statement of Mr. Watkins, immediately below on the same page. No. 3 records a definite and interesting result but is immediately discounted by No. 4. No. 4 is the only instance in which Dr. Cammidge has made the essential comparison with the normal and it is noteworthy that, so far as it goes—for it, too, is incomplete—this statement tends to support my view, not Mr. Mayo Robson's. As the argument used is also the only argument brought forward by Mr. Watkins, which strictly applies to the point at issue, I may consider the two together. In Dr. Cammidge's words, "removal of the fat with ether leaves a residue similar to that obtained from normal fæces." If this means anything relevant to the present discussion it means that this residue contains a percentage of pigment similar to that contained in the residue from normal fæces. If this be so, then in the case cited by Dr. Cammidge, a little further on in his letter, where 90 per cent. of the dry weight of the fæces consisted of fat, leaving only 10 per cent. residue, there must have been a very notable diminution in the output of pigment, unless the fæces were remarkably excessive in bulk, of which no suggestion is made. For normal fæces contain about 15 per cent. of fat and therefore should leave 85 per

cent. of residue. In other words, bulk for bulk, normal fæces should contain, according to the above statement, eight and a half times more pigment than the fæces of this case. Unless, therefore, the fatty fæces were eight and a half times bulkier than the normal the output of pigment must have been less than normal. Does Dr. Cammidge suggest that they were so bulky as this? In the case I lately published their bulk was certainly nothing like so excessive. The statement with which I disagree therefore remains "non-proven," and I still think it mistaken.

On the other hand, the following supports my view. In THE LANCET of May 30th, 1903, p. 1497, will be found a very interesting paper by Dr. W. B. Cheadle on Acholia, defined as a condition of "absence of bile in the stools without jaundice or sign of obstruction to the biliary outflow from the ducts," therefore including all kinds of cases characterised by stools of this description. Analyses of the fæces in Dr. Cheadle's cases had been made by Dr. W. H. Willcox. Dr. Cheadle said, "In all cases bile pigment is deficient and in extreme and typical cases, where the stools appear white, no trace of it can be found. Moreover, in the most marked cases analysed by Dr. Willcox the bile acids were entirely absent also." In one of the cases quoted (Case 2) the stools contained at one time 49·65 per cent. of fat, whilst "bile pigment and bile acids were entirely absent." It is to be observed, however, that this case recovered, so that its exact pathology remains doubtful. Again, there is Sir Lauder Brunton's case quoted by Mr. Mayo Robson in his Hunterian lectures in 1904, in which Dr. Sidney Martin found only small quantities of unaltered biliverdin and "only an indication of biliary acids" in the white motions. The fact probably is that the pale colour of the fæces, in cases such as have been discussed, depends *partly* on the excess of light-coloured fat present, *partly*, as Dr. Cammidge suggests, on the crystalline peculiarities of the fat, *and partly on a diminution in the output of the fæcal pigment*. The exact part played by each of these factors is, no doubt, different in different cases. What the real explanation of this diminution in the pigment is cannot be now positively stated. It evidently occurs when abundant bile is entering the alimentary canal. Dr. J. T. Walker's suggestion that defect of pancreatic secretion may have something to do with it is well worthy of attention. There is one thing which, at all events, I think that this discussion has brought out clearly (especially some curious facts mentioned by Mr. Watkins)—viz., that the whole subject of fæcal pigment is is need of re-investigation. When that is undertaken I hope that Dr. Walker's theory will not be lost sight of. With apologies for the unavoidable length of this letter,

I am, Sirs, yours faithfully,

Exeter, Dec. 30th, 1905. W. GORDON.

VENTRAL FIXATION OF THE UTERUS BY A NEW METHOD.

To the Editors of THE LANCET.

SIRS,—If Mr. W. G. Richardson will consult THE LANCET of Feb. 12th, 1898, p. 429, he will find the description of an operation almost identical with the one which he publishes in your columns last week, written by Mr. C. J. Bond of Leicester. This operation I have seen done many times with excellent results both at Leicester and at the Bradford Infirmary. I am, Sirs, yours faithfully,

Girlington, Bradford, Dec. 27th, 1905. J. PHILLIPS.

MODERN MEDICAL EDUCATION.

To the Editors of THE LANCET.

SIRS,—I think "L.S.A."[1] is hardly fair in his very sweeping condemnation of modern medical teaching. Nowadays, certainly, the enormous amount of knowledge which can, and must, be obtained solely by clinical work under the guidance of a properly qualified teacher has tended to crowd out "treatment" from the systematic courses of study pursued in the medical schools. The medical registrar, hammering away at the methods by which disease is recognised and differentiated—and "L.S.A." will himself admit that it is as well to have some sort of an idea of one's patient's ailment before the administration of any drug—has little or no time to deal with the treatment of the particular case, and the student recognises this. He is also aware that the examiners at the colleges and the universities have an awkward habit of following up their examination-in-chief by the question "And how would you treat it?" As ward clerks this was common knowledge to us, and we applied the remedy by following our own, and other, house physicians on their morning rounds. We saw what was given, what happened or what did not happen, and we asked the reason.

The house physician, being a man who was endeavouring to make the most of his time, welcomed the amateur censorship and found that the necessity for explanation implied a corresponding necessary cogitation before applying any of the pharmaceutical remedies of his calling. If the physician, on his rounds, saw fit to change the treatment, he was forced, if merely in justice to his house physician, to explain why he had done so to his class. So it arose that the house physician taught treatment.

I am only a recently qualified general practitioner and therefore hasten to bow to the undoubted practical experience of "L.S.A." Still I cannot agree that the Apothecaries' Hall examinations demand a greater knowledge of drugs and their applications than the tests applied by other examining bodies. I have the M.R.C.S., L.R.C.P., and the B.S. and M.D. Lond. I have not taken the L.S.A. but I have successfully "coached" for that diploma. I have held the usual appointments, including house physician at a great London hospital, and can therefore place myself on all fours with "L.S.A.'s" son. Yet I should be false were I to deny the enormous amount of practical treatment that I learnt in my various appointments.

As a house physician I did not have to worry with blood counts and the like. They were the province of the clinical clerks. I was therefore free to apply myself simply and solely to treatment, and this I hold is one of the inestimable advantages of a house physicianship at a big hospital. In my turn I had my volunteer class of fifth years' men and we argued and wrangled over treatment. I had to be sure of my facts; I was always liable to the direct negative from one of my "class" and it was never policy to attempt to bluff. Anything new was given a fair trial and dropped or continued according to results.

I admit there is a class of men which considers that the ends of medical science are met when once the lesion is located with accuracy. But this class is small and learns wisdom later. The great bulk of students at the present time fully realise the importance of treatment and do their best to acquire some working knowledge. As to the house staff, how often has one heard the caution from one house physician to another who is filling his friend's spare beds: "Don't send me in any curiosities. Send me in something I can *treat*." Apologising for a prolix and, I fear, egotistical letter,

I am, Sirs, yours faithfully,

Jan. 1st, 1906. GENERAL PRACTITIONER.

[1] THE LANCET, Dec. 23rd, 1905, p. 1866.

THE BATTLE OF THE CLUBS.

(FROM OUR SPECIAL COMMISSIONER.)

Medical Scandal at Macclesfield.—Local Economic Conditions.—No Improvement for Three-quarters of a Century.—Medical Officers paid 10d. per Member per Year.—Contract Work at Less than a Farthing per Week.

OF all the deplorable descriptions of the degradation wrought in the ranks of the medical profession by club practice or the contract system the following account of the state of affairs at Macclesfield will probably rank among the worst. This town used to be a prosperous silk manufacturing centre and some 75 years ago an individual called Fergusson started a burial club for the advantage of the operatives engaged in that trade. Any student of political economy knows what were the conditions of the workers in factories during the earlier half of the nineteenth century; how the abuses then prevalent led up to the Chartist agitation, to the Peterloo massacre, and finally resulted in far-reaching and beneficent factory and sanitary legislation. It was on July 10th, 1831, that the Macclesfield General Burial Society was established and on Jan. 11th, 1905, this society issued its seventy-third annual report and balance-sheet. It had 6115

members in 1904. Then there is a Burial Society No. 2, which has 5300 members and was established in 1833. In the face of these dates it is only natural to observe that contracts made with members of the medical profession three-quarters of a century ago cannot be considered as satisfactory under the altered conditions which prevail to-day. What club practice was when first these burial societies were created I am unable to say, but a graphic description was given to me by an old resident of how the system worked some 40 years ago. In those days the burial clubs employed two elderly practitioners who had seen some 60 summers. Then there was an army surgeon who was going downhill very rapidly and another practitioner who was a perfect gentleman. Everyone spoke well of the latter; his manners were unimpeachable, he was a general favourite, but he was almost always drunk. He was much in demand in cases of accouchement. All that was necessary was to send for him in good time, provide a sofa so that he might lie down and have a sound sleep, have a cup of strong tea ready for him when he awoke, and then he would be able to attend to the case with the greatest skill while charming everyone by his extremely refined, courteous, and agreeable manners.

In those days unqualified assistants were allowed and wonderful stories are told of their prowess and popularity. The curious thing is that at least one of these unqualified assistants seems to have had a better sense of standing up for his rights than the medical men engaged in the same service. He did think that the extent to which he should be exploited by the burial societies should have a limit, so he refused to go out or to see any patient after 8 P.M. Thus he left the night work for the fully qualified practitioners. Then there was another assistant who had been taken out of one of the mills. He was an uneducated workman, but in time he picked up a little knowledge, became very popular, and it is said that he attended more midwifery cases than any qualified practitioner in the town. Such was the state of club practice at Macclesfield some 30 or 40 years ago, and the younger practitioners when they saw that the club work was in the hands of such men thought that they would leave it to die a natural death. This, however, was a great mistake, for when the elderly medical officers died the burial clubs imported new and more active men who strengthened their position. Also the hopes of improving the conditions of club practice were soon to be gravely affected by the decline of the silk trade. This commenced in 1850 and it became evident that in England, where there are no silkworms and no silk, the industry could not compete with more favoured localities such as Lyons. Practically silk-throwing is dead, the hand loom no longer pays, and at Macclesfield imported manufactured silk can be bought for about the same price as the raw material. Indeed, Macclesfield would have been completely ruined but for some efforts that were made to start other industries. There are some shirt manufacturers and foreign silks are converted into blouses but this is all work for women and, indeed, at Macclesfield the women have far better opportunities of working than the men. There is, it is true, one cotton mill which employs men and women. In these circumstances, of course, the wages earned are very low. Women are always underpaid and the competition between the men for the little work that they can do is so keen that there is no difficulty in keeping their wages down, excepting, of course, the one instance where the well-organised cotton trade is concerned.

Not only are wages much lower and a great number of the men permanently unemployed but it is urged that provisions are much dearer. This, of course, is quite contrary to the experience of large towns such as London, Liverpool, &c. But in a rural district the poultry, eggs, milk, butter, and the meat from the local killing can now, with the aid of the railways, be sent to other than the local market, and therefore those who used to live on what was produced in their immediate vicinity would find living dearer. In any case this is one of the arguments given to explain why the medical practitioners of Macclesfield had not succeeded in improving their position. There was one short period, however, of extraordinary prosperity; this was during the Franco German war of 1870–71. The French silk trade was then paralysed and orders flowed into Macclesfield. The trade went up by leaps and bounds. Many manufacturers abandoned their legitimate business and launched forth in all manner of new branches, which was imprudent for the boom was not likely to last long. Workmen at that time were sometimes able to earn as much as £2 in three days and a few found this sufficient to enable them to devote the remaining four days of the week to drinking. There was not much work for the club medical officers to do at that time as the work people could all afford to consult private practitioners and to pay proper fees. The club medical officers, therefore, did not complain because they received the same pay and had less work. The independent practitioners did not complain because they had a large increase of private patients. Both the one and the other failed to see that it was during this period of great prosperity that a successful effort might have been made to improve the conditions of contract work. The golden opportunity was lost, the Franco-German war came to an end, the silk looms at Lyons began to work again, the trade once more left Macclesfield, and it has gone down and down ever since. Thus matters have remained as they were and there has been hardly any change whatever.

Now that I have reached the point when I can no longer defer stating what is this position that has not been altered during so long a course of years, I feel overwhelmed with all manner of doubts and hesitation. It seems so utterly incredible that I find it very difficult to believe the evidence before my eyes and therefore can hardly expect others to do so. In the course of these investigations a few clubs have been discovered here and there which pay their medical officers 3*s.* and sometimes only 2*s.* 6*d.* per member per annum, though 4*s.* or 4*s.* 4*d.* is generally considered the minimum. What, then, can be said of Macclesfield? Will it be credited that at Macclesfield the medical officer of the General Burial Society receives from each member of this club, whom he is bound to attend in case of sickness, a payment of only 10*d.* per annum! Yet here is the proof of this astounding fact. The burial club in question has printed and issued its seventy-third annual report. This official document is dated Jan. 11th, 1905, and contains on the third page the following: "Number of members at the end of 1903, 6212; joined, 148; withdrawn, 142; died, 103; leaving a total membership of 6115." Then the accounts for every quarter are published, followed by a summary of the whole year. From these it appears that the medical officer was paid £254 13*s.* 7*d.* This is equal to 61,123 pennies. If these pennies be divided by the 6115 members it will be seen that it comes almost precisely to 10*d.* per member. Burial Society No. 2 has also published a report for the year 1904. This is its seventy-second annual report and it states that its medical officers were paid the sum of £200 2*s.* during the year. Unfortunately, there is no account given as to the total number of members belonging to this society but I am very creditably informed that there are 5300 members. If this is correct then the rate of payment for medical attendance on the members of Burial Society No. 2 is even lower than that of the General Burial Society. The sum paid, £200 2*s.*, is equal to 48,028 pennies, which, divided by the 5300 members, make almost precisely 9¼*d.* per annum per member. For each 9¼*d.* the medical officer has to be responsible for the supplying of proper medical attendance during an entire year to the individual who has disbursed the 9¼*d.* For less than 1*d.* a month, indeed, for only ¾*d.* per month, the medical officer is day and night at the beck and call of the individual who pays him less than ¼*d.* per week. If that individual chooses to fancy that there is something the matter with him the medical officer is obliged to see the supposed patient as often as may be necessary.

How medical men could possibly have been induced to assent to such terms seems as incredible as it is difficult to explain. Probably these terms were accepted when economic conditions were utterly different to what they are now and have never been altered since. In most societies and even in the case of speculative insurance companies where medical aid is provided the members are charged 1*d.* a week for such aid and this over and above the subscription which they pay for other benefits, such as sick allowance, burial allowance, &c. These Macclesfield societies, however, work on the basis that 1*d.* a week is to cover everything and even then they give their members four weeks' holidays per annum. Therefore, there are only 48 collections of 1*d.*, which makes 4*s.* per annum, instead of the usual 52 weekly collections, yielding 4*s.* 4*d.* in the year. Then, instead of allotting various sums for the various purposes, the system was to have so many collections for each purpose. Thus in 1904 the General Burial Society had 32 collections for their burial account, ten collections for their medical account, and six collections for their management account.

As the payment is 1*d.* per week the fact that there were ten collections for the medical account helps to confirm the statement made above that the medical officer only receives 10*d.* a year for each person whom he has on his books. If in spite of the smallness of the sum the total income from this source amounted, as already stated, to £254 13*s.* 7*d.*, this is only due to the fact that the medical officer had more than double the number of persons on his books than should be allowed. This, indeed, it is that constitutes the principal danger and scandal of the system. For anything like an income to be made by a medical practitioner when each person on his book contributes less than ¼*d.* per week, the number of persons so inscribed must of necessity be far greater than any one medical practitioner can attend properly. Therefore, is it not a degradation of the profession to accept such conditions? Might not the question be put to the General Medical Council? Is it not "infamous in the professional sense" for a medical practitioner to contract to attend professionally on members of a club whenever called if the remuneration given is only equal for each person to about three-quarters of a farthing per week? What sort of professional dignity can a medical practitioner maintain towards a patient from whom he accepts a payment of three-quarters of a farthing per week? Does not the dignity of medical science make it imperative that such terms should be refused and treated as an insult offered to the profession.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Hospital Sunday Fund.

THIS year's collection for the above Fund reaches a total which has only been surpassed once—viz., in 1878, when a special collection was made for the Queen's Hospital. This year's collection totalled £5900 0*s.* 7*d.* Church collections, exclusive of allocated donations and subscriptions, amounted to £4657 7*s.* 6*d.* and specially allocated donations to £1119 4*s.* 7*d.* Of the special allocations £244 14*s.* 8*d.* went to the Queen's Hospital and £202 0*s.* 6*d.* to the General Hospital. The expenses of the collection were £396 18*s.* 7*d.*, leaving an amount available for distribution of £5593 2*s.* The Lord Mayor, in moving the approval and adoption of the accounts, deprecated the practice adopted by a few congregations of ear-marking some portion of the collection as a subscription for which tickets were expected from the charities. He ventured to say that the more collections were handed over as an entirely free gift without any conditions the more the original object for which the fund was established would be carried out. He also thought that another year more consideration should be shown to the minor charities, that the amounts by which some of these benefited were not commensurate with the good that they were doing. The honorary lay secretary in reply to a question stated that the whole collection should be treated as a free gift from the churches of the city to the hospitals in recognition of the work they did. No tickets were to be expected in return for the collections.

Birmingham Distress Committee.

The general purposes subcommittee of the statutory distress committee has met and has decided to open a municipal labour bureau and to invite the unemployed to register their names. Arrangements have been made with the estates committee and the drainage board to employ as many men as work can be found for. The total number of applicants up to date is 538. This number out of a population of more than 500,000 is by no means large and seems to indicate that the amount of distress in Birmingham is not so acute as it is in many other towns. It should, however, be stated that only those unemployed are registered (1) who are willing to work but are temporarily prevented by causes over which they have no control; (2) who are of good character; (3) who have been resident in the city for the past twelve months; and (4) who have not received Poor-law relief within that time. The vast majority of the applicants are outdoor workers and unskilled labourers. Only one woman, a charwoman, has applied. The distress committee at Smethwick has decided to open a stoneyard in order to provide work for the unemployed. It has already received 70 applications for relief.

Coventry and Warwickshire Hospital.

The annual report of the Coventry and Warwickshire Hospital states that 995 in-patients had been treated during the year, as against 913 in the previous year, and 8314 out-patients, as against 8269. There has been a great strain on the accommodation of the institution and in view of that there is an urgent need for greater capacity. For the extension scheme the authorities have already got £11,000—about one-third of the money required. An appeal was made for further annual subscriptions. There had been a notable increase of £325 in the amount received from the Hospital Saturday Fund. The Earl of Craven was elected president in succession to the late Lord Leigh.

Treatment of the Feeble-minded in Birmingham.

The Birmingham, Aston, and King's Norton joint Poor-law establishment committee has adopted a scheme for the treatment of epileptics and feeble-minded. It proposes to erect at once three houses for women and three houses for men, each house to accommodate 36 patients, a total of 216. With a few alterations and the addition of a suitable kitchen Monyhull Hall can be made to serve as "administrative quarters" until the number of patients at the colony exceeds 210. The complete plans provide for seven houses for women and seven for men.

Welsh Water and Galvanised Kettles.

The health committee of the city council has had under consideration certain galvanised kettles which are now in common use throughout Birmingham. The medical officer of health has made investigations and has found that any pure soft water acts on these kettles with great vigour and dissolves so much of the zinc from the galvanising as to make the water harmful and objectionable. The committee has passed a resolution approving of two circulars which the medical officer of health has been instructed to publish. The first is to be sent to kettle manufacturers asking them to call in any kettles which they may have distributed with a view of preventing the sale of them within the city, and the second circular is to be sent to ironmongers and others requesting them not to sell any kettles having a galvanised zinc coating. Enamelled or tinned kettles are recommended by the committee but from some correspondence in the local papers it would seem that the former are also open to objection.

The Birmingham Rowton Houses.

The third annual general meeting of the shareholders of the Birmingham Rowton Houses, Limited, has lately been held at the Rowton House in Moseley-street. The report for the year stated that the daily average number of residents in March was 317, while in October it was 630. The profit for the first seven months was £694 16*s.* 11*d.*, and the directors hoped, but did not promise, that they would be able to pay a dividend next year. The directors intend to start a midday dinner and will supply a first-class meal at a cost of 6*d.* A weekly series of concerts has been instituted and has been greatly appreciated by the residents. It was mentioned that the men whom they got in the house were very similar to those in the London houses except that the Birmingham men were particularly fond of cooking their own food.

Jan. 2nd.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Public Baths.

FOR many years Manchester has been interested in making provision for bathers and when the Victoria baths and the Moss Side baths are completed there will be 25 swimming baths, 497 wash baths, three Turkish baths, one Russian bath, and two public wash houses. Although a port Manchester cannot boast of the fitness of her waterway for swimming exercises. There are no sheets of water available, so that the youths of the city have to make use of the baths if they want to learn to swim. The total capital outlay by the corporation on these baths has been £157,798. This is exclusive of the expenditure on the Gorton, Newton Heath, and Whitworth baths before the respective districts became included in the city. The cost of the Victoria baths, £40,654, and of the Bradford baths, £3811, has also been excluded. There were 1,220,472 bathers for the year ending Sept. 30th, an increase of more than 31,000 as compared with

the previous year. No new swimming baths were opened between 1897 and 1905 and during that time the number of bathers has increased from 133,152 to 575,180. The number of school children using the baths increases year by year and many learn to swim. The proportion of the population who can swim will compare favourably with that of many places on the coast. There are life-saving classes and awards are given in the shape of season tickets. Last year 342 awards were given as against 582 in 1904. The cause of the decrease last year is not apparent. Appeals continue to be made still from some of the populous districts for baths and wash houses on more modest lines than the costly—many think far too costly—buildings on which tens of thousands of pounds have been lavished. It is good that Manchester should be well provided with swimming baths, for it is a smoke-begrimed city, but the actual possibilities of cleanliness for the men, women, and children of the crowded tenements in the "mean streets" and for the cleansing of their malodorous clothing are better met by the more humble, but for them more useful, cottage baths and wash houses which these poor folks can enter without shame and shrinking.

Bequests to Medical Charities.

It was mentioned a short time since that Mr. A. W. Mills, a well-known architect in Manchester, left £4000 to the Owens College for a permanent endowment, this, of course, not being strictly medical, and £3000 to the Manchester Royal Infirmary and Dispensary. He also left £500 each to St. Mary's Hospital, to the Altrincham Provident Dispensary, to the Manchester Hospital for Consumption and Throat Diseases, and to the Hospital for Incurables at Mauldeth Hall. Besides these bequests to medical charities, he left £4000 to the Manchester Grammar School for scholarships for boys, tenable at Oxford or Cambridge, and £500 to the Architects' Benevolent Society.

Workhouse Inmates and Razors.

An inquest was held on Dec. 28th, 1905, on the body of a man who had been in hospital since June suffering from pulmonary tuberculosis and on Christmas Day attempted to cut his throat with a razor. The medical officer said that the slight wound in his throat had no effect in hastening the man's death which was due to pulmonary tuberculosis. The master of the workhouse stated that it was against the rules of the house for inmates to shave themselves. Razors, knives, or anything of the sort were taken from them but it was impossible to prevent friends giving them razors which they hide. This seems likely enough when, as the master said, on one occasion there were nearly 2000 visitors. The point of interest in this case is the suggestion that the attempt at suicide might have been brought about by a sad occurrence that took place recently. A nurse was suspected, rightly or wrongly, of stealing and committed suicide by throwing herself from a window, and the coroner asked the medical officer if he thought it had had any effect on the patients. Dr. Wright replied that it might have preyed on the minds of a few. He further said, in reply to the coroner, that the officials would take all possible precautions.

Anthrax at Bradford.

The importance of perfecting the processes for the disinfection of the raw materials containing the germs giving rise to anthrax is emphasised by the fact that this disease has caused seven deaths at Bradford within a few weeks. There have never been so many cases in so short a time in Bradford.

Jan. 2nd.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

Leeds Public Dispensary.

THE election committee of the Leeds Public Dispensary has made the following appointments:—Honorary surgeon in charge of diseases of the throat and nose, Mr. A. D. Sharp, M.D. Birm., F.R.C.S. Edin.; honorary medical officers in charge of medical cases, Mr. Sydney Clark, L.R.C.P. Lond., M.R.C.S. Eng., and Mr. J. Gordon Sharp, M.D. Edin.; honorary medical officers in charge of surgical cases, Mr. W. McGregor Young, M.A., M.D., C.M. Glasg., and Mr. A. Mackenzie, M.A., M.B., B.C. Cantab. The four last-named gentlemen will be in charge of the southern branch of the institution which is to be developed as a consequence of the taking over of the Southern Dispensary by the older institution.

A Point in the Sale of Poisons.

The decision of the Leeds stipendiary magistrate in regard to the sale of Rankin's ointment, which contains veratria, has not been sustained on appeal to the Divisional Court of the King's Bench Division. The stipendiary pronounced his reasoned judgment on May 2nd and in convicting the defendants he stated that it had been established by a series of decisions culminating in a judgment of the Court of Appeal that the statute applied in the case of a mixture or compound where a scheduled poison constituted one factor in the composition of the article sold. He declined to accept the argument that all vermin-killers, whatever their constituent poisons, must be deemed to be in Part II. of the schedule, and held that it was consistent with the resolution of the Pharmaceutical Council in 1869 to hold that vermin-killers containing poisons in Part I. fell within Part I. For the defence it had been contended that compounds containing poisonous alkaloids did not come within Part I. of the schedule of the Act but were within Part II. and could therefore be sold to an unknown person if properly labelled "poison." The Lord Chief Justice, while agreeing that in certain cases the selling of a compound containing a poison was the same as selling the poison itself, considered that in this case the compound in question came within the second part of the schedule and he ruled that the conviction could not be maintained. Justices Lawrance and Ridley concurred and the appeal was allowed with costs. The judgments of the Leeds stipendiary in the cases of the selling of Easton's syrup, which he pronounced on the same date as the above, and against the defendants, have not been challenged and stand. In one of these cases it had been argued for the defence that Easton's syrup was nothing but a medicine and that it was "dispensed," because it was made up at the customer's request from Dr. Easton's prescription. The customer was, however, requested to sign the poison register. In the remaining two cases this request was not made. It is difficult for the non-legal mind to follow the reasoning which led to an appeal in the first class of cases—the Rankin's ointment cases, that is to say—and yet did not lead to an attempt to upset the judgment in the first case of the second group. Here the defence seems indeed to have been inconsistent, for if the chemist was merely "dispensing," as it was maintained, why was the customer called on to sign the poison book? The stipendiary found that the sale was not an act of dispensing and therefore this case looks very much on the same footing as those concerned with the sale of Rankin's ointment and one therefore in which the judgment might have been reversed on appeal.

Jan. 2nd.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Memorial to the late Dr. William Turnbull.

IN a previous letter (July 29th, 1905) attention was drawn to the proposed memorial to the late Dr. W. Turnbull, formerly demonstrator of anatomy in the Durham University College of Medicine. The brass tablet then mentioned has now been appropriately erected in the dissecting-room, the scene of Dr. Turnbull's earnest labours. The inscription reads as follows:—

In Memory of
William Turnbull, M.B., B.S.,
Demonstrator of Anatomy in this College,
1895 to 1903.
Died Sept. 20th, 1903, aged 42 years.
This Tablet is erected by Fellow
Students and Friends.

The Borough of Tynemouth Water Scheme.

For many years past the water-supply of Tynemouth and district (the largest town in the area is North Shields) was in the hands of the North Shields Water Company but for a quarter of a century the Tynemouth corporation was unable to obtain water from the company for watering the streets, flushing sewers, and other sanitary purposes, and even the domestic supply was often inconveniently curtailed. To make amends for these too numerous deficiencies an extra supply had to be obtained from the Newcastle and Gateshead Water Company, but this could

only be secured under various restrictions under the special Acts of that company and, of course, at very considerable cost. Under the yoke of these disadvantages several attempts were made to place the Newcastle company under statutory obligations to supply the Tynemouth borough, but the Newcastle company was joined by the corporations of Newcastle and Gateshead in active resistance to any such scheme. Thus the Tynemouth borough had no alternative but to secure an independent supply. Accordingly in 1897 the corporation acquired the old company's works and in the following year procured from Parliament power to proceed with the scheme which is now being actively pushed forward. The Font is a mountain stream of pure water which flows down from the hills to join the river Coquet a few miles below the town of Rothbury. This stream is being dammed to form an artificial lake, the water from which has to travel a distance of 25 miles to the distributing reservoir at Moor House, near North Shields. The works at the Font include filter-beds and the long line of pipe-track necessary. The contract time for the completion of the works is July, 1907, but it is confidently expected that they will be in working order before that date. Already the borough is receiving overflow water to the extent of half of its daily supply and in wet weather the excess is enough to effect a saving of something like £100 a week in the lessened quantity required from the Newcastle Company. Financially the scheme is a costly one, having already involved expenditure amounting to £415,900, and the total is expected to reach £500,000 before completion of the work, this representing the cost for a rateable area of 63,000 inhabitants. To make the scheme a monetary success it will be necessary to sell the surplus water to the many small towns and villages within the possible supply area, including Ashington, Morpeth rural, Newbiggin and Tynemouth rural districts, and to this end terms are now being discussed. It is calculated that if all the surplus water be sold it will amount to an available profit of £4000 per annum, which would mean a reduction of 5½*d.* from an otherwise necessary 8*d.* water-rate.

Lecture on Aphasia and Cerebral Speech Mechanism.

On Dec. 7th Dr. Byrom Bramwell visited Newcastle-upon-Tyne as the guest of the Clinical Society and delivered in the College of Medicine a very well-attended lecture on Aphasia and Cerebral Speech Mechanism. The lecturer did not belie his reputation and delighted his large audience with a clear and highly interesting dissertation on this difficult subject, deriving much aid in making points clear by reference to a series of ingenious diagrams which he had brought with him. In moving a vote of thanks Professor George R. Murray said he had been privileged to hear many notable authorities lecture on aphasia, both in this country and abroad, but he had never listened to a more lucid disquisition. He also claimed some of the credit for the Newcastle School on the ground that Dr. Bramwell's study of the subject had been begun when he acted as physician to the Royal Infirmary in Newcastle. In seconding the motion Dr. Thomas Beattie remarked on the stimulating effect of such an address on those privileged to hear it. In reply, it was with no little feeling that Dr. Bramwell referred to his early connexion with Newcastle, and he went so far as to confess that he had often doubted the wisdom of the step he took when he left it. In the evening the guest was entertained at dinner at the County Hotel, there being a very large attendance.

Jan. 2nd.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Death of Mr. M. H. Greener, M.B., C.M. Glasg.

THE death of Dr. Michael Hindmarsh Greener on Dec. 26th, 1905, came as a great shock to the medical profession in Cardiff. He succumbed to an attack of bronchopneumonia after an illness of less than a week's duration. Born in Alnwick in 1858 he graduated as M.B. and C.M. at the University of Glasgow in 1884 and almost at once began to practise in Cardiff. He was on the staff of the Cardiff Provident Dispensary and was honorary medical officer of the convalescent home at Dulwich House. He was buried at Dinas Cross in Pembrokeshire, where he had built a house and usually spent his holidays. He leaves a widow, a son, and a daughter to mourn their loss.

Legacies to Bristol Hospitals.

Miss Matilda Mercer of Clifton has left sums of £1000 to the Royal Infirmary and General Hospital, Bristol, and £200 to the Bristol Royal Hospital for Sick Children and Women and to the Clifton Dispensary. Subject to the life interest of her sister the Royal Infirmary and the General Hospital will each benefit to the extent of £4000; the Women and Children's Hospital will receive £1500; the Queen Victoria Jubilee Convalescent Home £3000; the Weston super-Mare Sanatorium, the Bristol Orthopædic Hospital, and the Bristol Eye Hospital £1000 each; and the Clifton Dispensary £500.

Poor-law Relief in Bristol.

Reference has already been made[1] to the increasing amount of pauperism in the city of Bristol. The recommendations of a special committee appointed by the board of guardians to consider the question were discussed at a meeting of the board held on Dec. 29th. It was decided to establish a new relief depôt and to increase the number of the relief committees with a view to make closer inquiries into the circumstances of applicants for relief. The proposal to appoint a superintendent relieving officer at a salary of £175 per annum was, however, negatived by 36 votes to 17 in spite of its advocacy by the Local Government Board inspector (Mr. E. B. Wethered) who was present at the meeting and who compared the cost of pauperism in the Bristol and Aston unions. The population of the former is 339,000 and of the latter 312,000. During the six months ending March 25th last the in-maintenance in Bristol cost £16,047 and in Aston £10,877, while during the same period the Bristol out-relief cost £20,759 and that at Aston only £4303.

Poor-law Guardians on the Vaccination Acts.

The subject of vaccination is frequently discussed at meetings of the Poor-law guardians in the West of England and at the meeting of the Devonport board held on Dec. 29th it was decided by a large majority to support the resolution which the Runcorn union is sending to the Local Government Board urging that "the principle of vaccination and revaccination in force before the Vaccination Act, 1898, came into operation should be reverted to."

Jan. 2nd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Physicians of Edinburgh.

AT the last ordinary meeting of the Royal College of Physicians of Edinburgh Dr. John Playfair was re-elected President of the College, Dr. Thomas S. Clouston, Vice-President, and Sir Thomas R. Fraser, Sir John Batty Tuke, Dr. Charles E. Underhill, Dr. James Ritchie, and Dr. R. W. Philip were elected to the Council with the President and Vice-President. The Council subsequently made the following appointments for the ensuing year: Dr. Peter A. Young, treasurer; Dr. Harry Rainy, secretary; Dr. D. Berry Hart, librarian; and Sir John Batty Tuke, curator of the research laboratory.—At an extraordinary meeting of the College held on Dec. 19th, the College unanimously appointed Dr. James O. Affleck and Dr. Charles E. Underhill to be representatives of the College on the board of management of the Royal Infirmary.

Two Glasgow Medical Practitioners Sued for £20,000.

It is with considerable interest that the medical profession in the West of Scotland has watched the progress in the Court of Session of an action brought against two Glasgow medical practitioners, and the verdict has been hailed with a certain amount of relief, although it is difficult to see how it could have been otherwise. The action was raised at the instance of a Clyde pilot who sued Dr. Marion Gilchrist, a practitioner in the West-end of Glasgow, and Mr. John Carswell, an expert in lunacy of the same city, for £10,000 each for alleged unprofessional conduct in granting certificates to the effect that the pursuer was of unsound mind and thereby causing his incarceration in Gartnavel Lunatic Asylum from September, 1903, to January, 1904. The pursuer's case was that the defenders acted negligently and unprofessionally and made no independent or adequate inquiry into the pursuer's statements or ascertained definitely the pursuer's mental condition and that they did not consult his own

[1] THE LANCET, Dec. 23rd, 1905, p. 1868.

medical adviser. Evidence was led at considerable length and amongst other witnesses two medical men, one of them Sir Henry D. Littlejohn, were called by the pursuer to give evidence as regards his sanity. The case dragged over many days and heavy expenses were incurred on both sides. Lord Pearson, before whom the case was tried, gave his decision to the effect that the certificate was not granted wrongfully or without due inquiry and examination, and that on the various dates on which the pursuer was separately examined by the defenders the pursuer was insane and suffering from an attack of subacute mania with homicidal tendency and was a proper patient for admission to, and detention in, Gartnavel Asylum. Although after the evidence on both sides had been heard there was no doubt in anyone's mind as to what the decision would be, yet there is reason for satisfaction that Lord Pearson in the terms of his judgment took up a position so precise and definite. Such a judgment is of the first importance to the public and to the medical profession. With the public, in its desire to safeguard its own interests and liberty, one has every sympathy, but with the medical practitioner in the discharge of duties of this kind one has still more sympathy. Had the decision in this case gone otherwise the medical practitioner dealing with a case of lunacy would have been on the horns of a dilemma. To grant a certificate might mean being sued for £10,000, while to withhold it, as would be his natural inclination, might mean a worse catastrophe in the shape of homicide, in which case he would not be held blameless. Dr. Gilchrist and Mr. Carswell are to be congratulated on the verdict in what must have been to them a very annoying and expensive lawsuit.

Population of Glasgow.

Dr. A. K. Chalmers, the city medical officer of health, has just issued his annual report with reference to the population of Glasgow. It is of an exceptionally interesting nature and deals at considerable length with the remarkable displacement that is going on throughout the city and suburbs. A significant fact mentioned is that the population of the city within the municipal area as at June last was 785,474, compared with 785,465 for the corresponding date in 1904, representing a difference of nine persons only in favour of the present year. In other words, the population has only been saved from a numerical reduction by reason of an increase in the number of persons resident in institutions and in consequence removed from opportunities of discharging many of the responsibilities of citizenship. This is the first natural interruption to a period of growth which has been continuous since 1887. It is noteworthy that in many of the suburban wards, on the other hand, there is a distinct increase. The depletion of the central districts is no doubt in large part due to increased facilities in travelling which enable the working man to live at a greater distance from his work and from the point of view of the general health and well-being of the community it is not to be deplored.

The Post Office and Bacteriological Specimens.

Recently an order was issued by the Postmaster-General in which conditions were laid down for the transmission by post of articles sent for medical examination or analysis. It is thought that one of these conditions will render useless all the arrangements of the sanitary department for expeditiously dealing with the material sent for bacterial examination. A subcommittee has been appointed by the Glasgow corporation to take such steps in the interests of public health as may be thought advisable.

Jan. 1st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Presentation to Dr. J. C. Martin.

ON Christmas Day Dr. J. C. Martin, on his home-coming after a protracted illness, was presented by his numerous friends in Portrush with a silver casket suitably inscribed and containing 250 sovereigns.

Health of Belfast.

At a meeting of the city corporation of Belfast, held on Jan. 1st, reports were read which indicated, as the chairman of the public health committee stated, "that the present state of affairs in the catchment area (at Stoneyford water reservoir) was a menace, but the corporation were not the sanitary authority for the district and they had no power to put the law in force." It appears that liquid matter from a manure heap at a farmhouse in the Stoneyford catchment area "flows over the surface of the ground into a watercourse; at the other side of the dwelling house the cowshed is situated within a few feet of the stream. This stream is part of the Belfast water-supply" (report of inspector). In reference to a national school in the same district: "The privies are situated over an old watercourse which connects with a small stream that forms part of the Stoneyford water-supply. The liquid matter from the privies gets into the watercourse." Then as to another house: "There is a large quantity of manure lying on the brink of a stream; the liquid filth is flowing into the stream. This is a bad case of pollution. The cowshed, dwelling-house, and premises are in a filthy state." The inspector adds: "I may say I have made reports on above houses at intervals during the past seven years and the sanitary state of the premises is as bad as ever it was." One of the water commissioners present said that not a single drop of the impure matter got into the water-supply of Belfast. The water commissioners were not, in his opinion, to do Lisburn work (the catchment area is in the Lisburn district). It was not, he said, really their business whether these farms were in a sanitary condition or not. That was the duty of the local authority having charge of the district. In other words, a vile nuisance may exist in one of the catchment areas supplying the citizens of Belfast with water and typhoid fever may arise, as it did before, and owing to some small detail as to who has authority over the district hundreds of lives may be lost. It is hoped, as it was suggested at the council meeting, that the Local Government Board will interfere and order an inquiry and place the blame upon the proper authority. It is believed by many that the great epidemic of typhoid fever in Belfast several years ago took its origin from cases that were proved to have existed in this same catchment area, though the excuse then was, as now, that nothing got into the water reservoir. During the four weeks (Nov. 19th to Dec. 16th) reported upon to the city corporation of Belfast on Jan. 1st it was stated that the number of cases of infectious diseases notified was more numerous than in the last report, and while cases of typhoid fever and simple continued fever (whatever nondescript is meant by continued fever) have considerably increased, those from scarlet fever and erysipelas have decreased. Owing to the mildness of the season deaths from chest diseases still keep lower than usual. The death-rate was 20·1 per 1000 and considering the time of the year the health of Belfast may be described as fairly satisfactory.

Royal University of Ireland.

Judge Shaw, who has been a representative of Convocation on the Senate of the Royal University for the last 20 years, has written to the clerk of Convocation resigning his position, on the ground that "he cannot remain a member of a governing body which is liable to be defied and insulted by those whom it is supposed to govern and which either has, or believes it has, no power to repel or punish such defiance and insult."

Jan. 2nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Hygienic Measures at Cherbourg.

THE admiral who is the maritime prefect of Cherbourg has recently issued an order containing the following regulations for the observance of hygienic measures. Firstly, it is of the greatest importance to prevent men by every possible means from drinking at the standpipes (*bornes-fontaines*) in the arsenal, the dockyard, or the town. In the arsenal the various shops will be supplied with distilled water from the ships in the port which will be told off for such duty by the naval officer in charge (*major-général*). Depôt No. 1 will supply boiled water to men working by themselves in the same way as it now does wine. The dietary of every mess is not to contain either salads or vegetables which are eaten raw, such as radishes or artichokes. All inhabited places are to be kept in a proper state of cleanliness and special care is to be exercised in the

cleaning of floors, which are to be brushed over with a 5 per cent. solution of chloride of lime, while the walls of rooms are to be whitewashed with lime-wash containing also chloride of lime. Men on leave are to be warned specially as to the danger of drinking town water and are also to be exhorted to avoid excess of any kind. Any man who appears to be ill, to be disinclined for work, or to have lost his appetite will be sent to the military hospital.

Death due to Cardiac Embolus while under an Anæsthetic.

At the meeting of the Society of Surgery held on Dec. 20th, 1905, M. Guinard showed the heart of a woman who was to have been operated upon for perimetritis, in which suppuration had occurred on the right side. The patient died quite suddenly on the table when she had just begun to take the chloroform. The apparatus used was Ricard's. Death was supposed to be due to the chloroform but a post-mortem examination revealed a large clot in the right ventricle, which clot was entangled in the chordæ tendineæ of the tricuspid valve. The origin of the clot was found to be in the hypogastric vein, just where it empties itself into the iliac vein. The clot had evidently been detached while the patient was being examined on the table or possibly in the pre-anæsthetic stage of excitement.

The Transmission of Contagious Diseases by School Books.

At the meeting of the Academy of Medicine held on Dec. 19th M. Josias read a paper founded on some inquiries made by M. Lop. This observer insisted upon the necessity for taking measures to prevent the transmission of infectious diseases by school books. There can be no doubt that scarlet fever is transmitted in this way and it is highly probable that tuberculosis, diphtheria, and other contagious diseases are so too. M. Lop proposes that at the end of each scholastic year books which are to be handed on to other scholars should be disinfected and all books in the possession of any child attacked by an infectious disease should also be disinfected. Exposure to high-pressure steam for 40 minutes is an excellent disinfectant but this method destroys bindings. The most practical method is that of Michel, which is based upon the use of the vapour of formic aldehyde.

Jan. 2nd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Medical Examination of School Children.

THE report on the work of the medical officers of the Berlin municipal schools shows that, although these appointments are of comparatively recent creation, the duties to be performed have already become very extensive. These medical officers have to examine all the new pupils who enter the schools at the beginning of both the winter and the summer semesters, a task of magnitude, as each school district includes from seven to nine schools and the number of new pupils during the period under consideration was 34,562. Among these children 2927 were not admitted, some of the causes, together with the number of cases under each heading, being as follows: general debility, 1091; rachitis, 519; various mental defects, including idiocy, 300; scrofulosis, 184; nervous diseases, 81; and cardiac disease, 76. Of the other children 7041, or 20 per cent. of the total, suffered from chronic diseases which did not exclude them from the schools but, however, made a regular examination by the medical officers necessary. Among the backward and mentally defective children there were 601 for whom instruction in special classes was necessary, and of these 32 had to be afterwards transferred to asylums for idiots. The medical officers have also to deal with the general hygiene of their respective schools and the report gives their remarks on ventilation, heating, light, &c. On the subject of infectious diseases it is stated that many parents when their children suffer from infectious diseases intentionally notify the case to the school authorities as one of an ordinary character, the object of this being to save themselves trouble or the risk of injury to their business or the necessity of keeping the children a long time at home. If a medical man is not consulted the convalescent children return to school before they are free from infection, to the great danger of their class fellows. Concerning tuberculosis, the report states that in the majority of cases the parents are not aware that their children are tuberculous on entering school and the discovery is first made by the school medical officer. The tuberculous children were examined at regular intervals and when necessity arose they were removed either to the seaside or to sanatoriums elsewhere. The number of tuberculous children is stated to be about 2000.

Sunday Rest for Medical Practitioners.

The so-called English Sunday—i.e., the closing of shops and offices all day on Sunday—is a relatively new institution in Germany and was legally enacted only about 15 years ago to the great satisfaction of all concerned. Recently some classes which do not come under the above law—pharmaceutical chemists, for instance—have taken measures by voluntary agreement to enjoy a more or less complete Sunday rest and the same movement has also found favour among the members of the medical profession. The question was recently discussed at a meeting of the Frankfort Medical Society where Dr. Eiermann delivered an address on Sunday Rest for Medical Practitioners. He said that the great majority of general practitioners scarcely ever had an opportunity of taking a trip to the country with their families on Sundays and that if they did so there was always a possibility that a patient might require attendance during the temporary absence of his usual medical adviser and might subsequently not return to him. In order that the medical men might obtain this much-needed relaxation without inconveniencing the public Dr. Eiermann proposed that the city should be mapped out into 17 divisions corresponding to the police districts and that the medical men of each division should come to an arrangement whereby one of them in turn should remain at home on Sunday in readiness to attend urgent cases for the other practitioners. The names of the medical men on Sunday duty might be published every Saturday in the local newspapers and could be ascertained at the district police stations where the public would make inquiry in case of need. Moreover, one specialist in every branch for the whole town would be at home on Sundays. In order that the new system should work without prejudice to the medical profession it would be essential that the practitioners on Sunday duty should be under an obligation to give immediate notice to the usual medical attendant of the family to which he had been called and that he should absolutely refrain from any kind of after-treatment. The Frankfort Medical Society unanimously agreed with these proposals and passed a resolution that the scheme for obtaining rest on Sunday should be introduced in Frankfort from Jan. 1st, 1906. It is to be hoped that the medical men of other large towns will soon follow the example of the Frankfort practitioners.

Dec. 30th, 1905.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The Dispensaries in the Provinces.

THE General Sanitary Council of the Ottoman Empire, says the Turkish newspaper *Ikdam*, published in Stamboul, is preparing a plan of regulations for the reorganisation of all the provincial dispensaries, the state of affairs of which is at present extremely unsatisfactory. Some regulations concerning the dispensaries and druggists' shops of the metropolis and surrounding districts are already in existence. They are, however, incomplete and lack that strict definiteness which is so absolutely necessary in the art of dispensing. Many localities in the provinces have no dispensaries at all. The way in which drugs are sold and administered there is a most deplorable one. All sorts of domestic remedies, very often of an injurious nature, are, of course, in great vogue. Very frequently old women play the rôle of a dispenser and of a medical adviser as well. Various amulets and talismans are supposed to possess great healing powers. Recitations from the Koran by a skilful "hodja" or "imam" in the presence of a bedridden patient are considered to be of much greater efficacy than any drug or any medical instruction, however dangerous the state of the diseased person may be. If the patient dies it is said to be due to an evil eye or to the influence of the "shitan" (devil). The few existing provincial dispensaries are in a state, as already indicated, which is far from satisfactory. In some it would be in vain to look

for a balance or any contrivance for measuring the exact dosage. The pharmacist simply trusts to the indications of his hand and eye. One can easily imagine the mischief that arises from such a mode of exercising the practice of dispensing. Frequently the district medical man asks in vain for the necessary drug. Frequently, also, the ingredients are so old as to have lost all their efficacy. The physicians have therefore very often to renounce prescribing the most indispensable ingredient and to adapt themselves as best they can to the scanty means at their disposal. The above-mentioned plan of regulations will try to remedy matters in a more or less energetic manner. The authorities will henceforward never allow anybody to open a dispensary unless he possesses sufficient means to furnish it with all the necessary requirements and to keep in stock the requisite amount of drugs. A sum of at least 100 Turkish liras (about £90 sterling) is being estimated by the General Sanitary Council as the lowest limit of means necessary to open a more or less respectably equipped dispensary. The municipal provincial authorities will also be instructed to make provisions for the opening of dispensaries in those localities where they do not now exist. Sanitary inspectors will visit twice yearly the provinces for the purpose of controlling the dispensaries and the dispensers. If the above plans are realised the public health of the Ottoman Empire will, of course, benefit very much indeed. I must, however, add that from a plan to its fulfilment there is always in Turkey a great, and very frequently insurmountable, distance.

The Expansion of the Italian Hospital.

Mr. Ciapelli, the Italian Consul-General at Constantinople, has recently returned from Italy, where he occupied himself with a plan of building a new pavilion for tuberculous patients in connexion with the Italian Hospital at Tophané, a district of the metropolis adjoining the business quarter of Galata. The carefully elaborated designs of the projected pavilion have already been submitted to Mr. Speroni, a well-known architect from Milan, whose specialty is the building of hospitals. He proposes to make alterations in these designs and as soon as his own plans arrive here the erection of the pavilion will commence. The latter will be built in accordance with all the necessary requirements of modern hygiene and sanitation.

A New Turkish Hospital at Port Said.

The Ottoman Government intends to build a hospital for poor patients at Port Said. The site for this hospital has already been bought and orders have been given to prepare the necessary plans and designs. The Sultan takes a keen interest in its construction.

A New Veterinary Bacteriological Institute.

In view of the extension of the epizootic that is raging in the provinces of Trebizond, Castemouni, Aidin, Broussa, Syria, Aleppo, and Beyrout the Ministry of Agriculture has asked the Sublime Porte for an authorisation to build in Constantinople a large veterinary bacteriological institute, as the existing laboratories are quite inadequate to meet the exigencies in furnishing serum in sufficient quantities to combat the outbreak.

A Strange "Remedy."

The inhabitants of Cassaba and Nif have recourse to a strange "remedy" for the epizootic raging in those places. The peasants there, to begin with, use every means possible at their disposal to prevent veterinary surgeons doing their work of prophylaxis and isolation. They oppose most energetically every mode of veterinary treatment and frequently insult and ill-treat the surgeon in the roughest manner. Their own domestic "remedy" for the prevention of contagion, a "remedy" in which they put absolute confidence, consists in the following. They kill a diseased animal and take out its liver and cut it into pieces. They then attach these latter with seven strings, all of a different colour, to the backs of the ears of the healthy animals which they henceforward consider to be safe from every contagion. Should an animal, however, die all the same the peasants attribute its death to the evil eye of the veterinary surgeon.

The First Snow.

After an exceptionally prolonged period of very mild weather we have got at last the first frost and the first snow. It is rare, however, for snow to last here. No sooner does it fall than it melts again. Severe winters are an exception at Constantinople.

Dec. 22nd, 1905.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

A Substantial Compliment.

IN order to show their appreciation of his labours in keeping the city free from yellow fever during the recent outbreak in the Southern States, a purse of $10,000, collected by popular subscription, was recently presented to Dr. Heber Jones, president of the Memphis (Tennessee), board of health. Dr. Jones sacrificed all other interests in order to be able to give his full time to the problems of quarantine and sanitation, and the value of his efforts is shown by the fact that, although many towns not far distant suffered, Memphis remained free from the disease.

Prize for Essay on Epilepsy.

A prize of $300 has been offered by the National Association for the Study of Epilepsy for the best essay dealing with the etiology of that disease. All essays must be in the hands of the examining committee by Sept. 1st, 1906, and the award will be made in the following November. Physicians in any country may compete for the prize. Full information regarding the conditions of the award may be obtained from the president of the association, Dr. W. P. Spratling, superintendent of the Craig Colony for Epileptics, Sonyea, Livingston County, New York.

Football Accidents.

A wave of popular indignation has been sweeping over the entire country on account of the constantly growing annual record of serious and even fatal football casualties. In recent years the record of fatalities has increased at a rate that does not seem explicable merely on the ground of more general interest in the game, and for this season it is estimated that over a score of deaths and at least 150 grave injuries occurred. It is usually the comparatively untrained and immature players of undergraduate elevens who suffer, but many seasoned members of collegiate teams are also included in the list. Four deaths were due to body blows giving rise to internal injuries, six were ascribed to cerebral concussion, and three to spinal injuries. Blood poisoning and other injuries are responsible for the remaining fatal cases. The list of the seriously hurt includes many fractures of the limbs, ribs, and collar bone, injuries of the head and spine, and concussion of the brain. It is supposed that if accurate statistics could be compiled the total number of accidents of a more or less serious character would exceed 1000. This terrifying record is no doubt largely due to the fact that the rules of the game have been gradually so changed that as it is now played in this country it has but little resemblance to its English prototype. Open play has been reduced to a minimum and the mass formations in vogue not only of themselves render fatalities common but also afford undesirable opportunities for undetected fouls and brutality which are unfortunately far too common. In consequence of the popular disapproval of the present game the authorities of the more prominent colleges and universities are taking radical steps to purge the rules of their objectionable features, even President Roosevelt going so far as to take a hand in the matter. At Columbia University football has been abolished absolutely.

Medical Examinations in New York State.

A conference was recently held in Albany to consider the advisability of substituting a single State medical board for the three now representing respectively the regular, homœopathic, and eclectic schools of medicine. The representatives of the various State medical societies and State medical boards, after considerable discussion, finally decided to retain for the present the three boards of medical examiners now existing. The matter of arranging the academic and professional courses of instruction so as to render it possible to obtain the degrees of B.A. and M.D. in seven instead of eight years has been under consideration for some time and steps have already been taken in this direction. A committee was appointed at the present conference for the purpose of preparing the outline for a course of study to be introduced into the junior and senior years of the colleges, which should be satisfactory to the medical schools of the State and be accepted by them in lieu of their first year's work.

Dec. 27th, 1905.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At a Congregation on Dec. 14th, 1905, the following degrees were conferred:—

M.B.—A. W. Wakefield, Trinity; S. Borradell-Smith, St. John's; W. R. Higgins, Caius; and C. F. Hardie, Queens'.

B.C.—A. W. Wakefield, Trinity; and S. Borradell-Smith, St. John's.

At examinations for medical and surgical degrees held in Michaelmas term the following candidates were successful:—

FIRST EXAMINATION.

Part I., Chemistry and Physics.—C. K. Bancroft and H. G. Baynes, Trinity; F. S. Bedale, Clare; C. H. B. Booth, King's; A. W. Bourne, Downing; H. H. Brown, Caius; E. G. S. Cane, Jesus; R. G. Canti, B.A., King's; F. G. Chandler, Jesus; K. J. A. Davis, B.A., King's; H. T. Depree, Clare; C. Ede, King's; W. G. Emmett, Caius; A. G. Evans, Trinity; A. E. Evans, St. John's; G. W. B. Garrett, Caius; E. M. Grace, Christ's; L. S. M. Habich, St. John's; E. C. Haller, B.A., Trinity; J. B. Hance, Christ's; J. R. Heath, Trinity; A. E. Herman, King's; L. C. D. Irvine, Emmanuel; G. James, St. John's; A. C. Johnson, Downing; G. G. Johnstone, King's; T. H. Just, Trinity; H. D. Lander, Caius; G. H. S. Letchworth, Pembroke; D. N. Macleod, Caius; J. R. Marrack, St. John's; W. G. Marsden, Emmanuel; G. W. Morrice and R. S. Morshead, Trinity; G. A. Morton, Queens'; B. A. Payne, Pembroke; H. B. Pope, Caius; E. Rayner, Pembroke; E. C. Rayner, Caius; A. H. Richardson, St. John's; W. D. Ross and S. H. Rouquette, King's; A. C. Roxburgh, Trinity; W. A. Russell, Emmanuel; H. B. G. Russell, Sidney Sussex; H. W. Scott, Clare; G. B. Sutton, Pembroke; R. H. Vicary, G. T. C. Watt, and J. B. A. Wigmore, Caius; and C. R. Wright, Christ's.

Part II., Elementary Biology.—P. Ballard, Catharine; C. K. Bancroft, Trinity; F. S. Bedale, Clare; A. W. Bourne, Downing; E. G. S. Cane, Jesus; R. G. Canti, B.A., King's; F. G. Chandler, Jesus; K. J. A. Davis, B.A., King's; H. T. Depree, Clare; W. G. Emmett, Caius; A. G. Evans, Trinity; G. W. B. Garrett, Caius; A. Griffith-Williams and B. C. Haller, B.A., Trinity; T. L. Hardy, H. Selwyn; J. Harrison, B.A., Christ's; L. C. D. Irvine, Emmanuel; A. C. Johnson, Downing; G. G. Johnstone, King's; W. H. Jones, B.A., Christ's; T. H. Just, C. C. Kerby, and M. Maclaren, Trinity; W. G. Marsden, Emmanuel; O. de B. Marsh, Pembroke; G. A. Morton, Queens'; F. A. Powell, Trinity; E. Rayner, Pembroke; E. C. Rayner, Caius; W. J. Richardson, H. Selwyn; F. E. W. Rogers, Emmanuel; W. D. Ross and S. H. Rouquette, King's; A. C. Roxburgh, Trinity; W. A. Russell and C. M. Ryley, Emmanuel; L. W. K. Scargill, M.A., Trinity Hall; H. C. S. Starkey, Downing; J. Ll. M. Symns, Caius; and H. A. Williams, Emmanuel.

SECOND EXAMINATION.

Human Anatomy and Physiology.—J. W. Adams and G. E. Alderson, Caius; D. Allan, B.A., St. John's; F. R. Armitage, B.A., Pembroke; C. C. H. Binns, Caius; H. Bowring, B.A., King's; W. Boys-Stones, B.A., Caius; R. D. D-D. Brownson, B.A., St. John's; H. T. H. Butt, B.A., Christ's; F. G. Caley, B.A., Pembroke; W. N. Child, B.A., Christ's; A. J. Clark, King's; C. N. Coad, B.A., St. John's; M. Donaldson, B.A., Trinity; H. B. Elton, B.A., Caius; R. Fisher, Sidney Sussex; H. G. Frean, B.A., St. John's; R. D. Gillies, B.A., Caius; A. H. Habgood, B.A., Jesus; W. Harmens, B.A., Trinity; E. H. V. Hodge, B.A., Clare; W. C. Hodges, B.A., Trinity Hall; A. N. Hodges, Queens'; C. C. Holman, Caius; B. Hughes, B.A., H. Selwyn; H. E. Humphrys, B.A., E. M. Lauderdale, B.A., and R. J. B. Leney, Caius; C. K. McKerrow, B.A., Clare; R. H. Mawhood, B.A., Trinity; R. M. Moore, B.A., St. John's; H. M. D. Nicoll and A. E. Rayner, B.A., Caius; H. G. Rice, St. John's; F. A. Roper, B.A., and R. N. Russell, Trinity; F. S. Scales, B.A., Jesus; A. L. H. Smith and H. C. Snell, B.A., Caius; H. E. S. Stiven, B.A., Trinity; L. B. C. Trotter, B.A., Clare; R. M. Vick, B.A., Jesus; C. St. A. Vivian, B.A., Caius; J. Walker, B.A., and W. E. Wallis, B.A., Clare; H. B. Wilson, B.A., Pembroke; P. F. Wilson, B.A., Caius; W. B. Wood, B.A., Jesus; S. Wood, B.A., Christ's; and C. S. E. Wright, B.A., Emmanuel.

THIRD EXAMINATION.

Part I., Pharmacology and General Pathology.—A. Abrahams, Emmanuel; R. R. Armstrong, Trinity; H. T. Ashby, B.A., Emmanuel; A. S. B. Bankart, B.A., Trinity; G. P. Campbell, B.A., Clare; J. R. C. Canney, B.A., Christ's; W. J. Carr, B.A., Trinity; A. E. A. Carver, B.A., and S. P. Chan, Caius; S. Churchill, B.A., and F. Clayton, B.A., Trinity; R. Cox, B.A., Caius; A. H. Crook, B.A., Christ's; R. Davies-Colley, B.A., Emmanuel; H. E. T. Davies, B.A., St. John's; B. Day, B.A., Caius; A. T. Densham, B.A., St. John's; H. Dimock, B.A., Sidney Sussex; G. H. Dunn, B.A., Pembroke; H. B. Ellison, B.A., Caius; D. Embleton, B.A., Christ's; M. F. Emrys-Jones, B.A., Caius; N. M. Fergusson, B.A., Magdalene; G. W. Goodhart, B.A., Trinity; W. E. Grandage, B.A., Clare; F. W. W. Griffin, B.A., King's; R. E. V. Hale, B.A., Caius; A. Hamilton, B.A., Christ's; J. Heath, B.A., Trinity; G. Hoffmann, B.A., Caius; W. M. Jeffreys, B.A., Trinity; N. W. Jenkin, B.A., Christ's; W. S. Leicester, B.A., Emmanuel; J. T. Macnab, B.A., Christ's; J. Mellanby, M.A., Emmanuel; W. H. Orton, B.A., Trinity; H. B. Owen, B.A., Caius; E. E. Paget-Tomlinson, B.A., Trinity Hall; W. G. Parkinson, B.A., Emmanuel; H. Parsons, B.A., R. C. Priest, B.A., and R. F. Priestley, B.A., Caius; C. E. Radman, B.A., Pembroke; L. W. Sharp, B.A., and O. R. Smale, B.A., Caius; E. R. Stone, B.A., Emmanuel; A. C. Sturdy, Pembroke; R. Svensson, B.A., Caius; H. H. Taylor, B.A., Pembroke; F. B. Treves, B.A., Caius; R. W. S. Walker, B.A., Trinity; and C. E. Whitehead, B.A., Caius.

Part II., Surgery, Midwifery, and Medicine.—The following have now satisfied the examiners in all three sections: C. Akerman, B.A., Caius; E. D. Anderson, B.A., Pembroke; A. D. Brunwin, M.A., Trinity; M. A. Cassidy, B.A., Clare; G. H. U. Corbett, B.A., King's; G. L. Cox, B.A., Christ's; F. D. Crew, B.A., Emmanuel; L. G. Davies, B.A., Trinity; A. H. Falkner, B.A., Peterhouse; J. N. F. Fergusson, B.A., and S. Gooding, M.A., St. John's; H. T. Gray, B.A., Trinity; S. L. Harke, B.A., Pembroke; W. H. Hastings, B.A., and S. A. Henry, B.A., Trinity; F. S. Hewett, B.A., Caius; R. F. V. Hodge, B.A., Emmanuel; A. B. Howitt, B.A., Clare; C. L. Isaac, B.A., and F. A. G. Jeans, M.A., St. John's; W. D. Keyworth, B.A., H. Selwyn; J. C. Lawton-Roberts, B.A., Clare; C. N. Le Brocq, B.A., Pembroke; W. E. Lee, B.A., Trinity; F. F. Leighton, B.A., St. John's; C. Lillingston, B.A., Pembroke; G. H. K. Macalister, B.A., St. John's; A. H. Miller, B.A., Trinity; W. P. Morgan, M.A., Clare; T. M. Neatby, M.A., and W. H. Newton, B.A., Emmanuel; G. W. de P. Nicholson, M.A., Jesus; W. H. Orton, B.A., Trinity; H. B. Owen, B.A., Caius; C. H. W. Page, M.A., Corpus Christi; C. T. Scott, M.A., Sidney Sussex; F. Shingleton-Smith, B.A., King's; G. C. E. Simpson, B.A., St. John's; J. M. Smith, B.A., Christ's; and R. S. Taylor, B.A., and W. P. Williams, B.A., Downing.

UNIVERSITY OF OXFORD.—At the Preliminary Examinations in Science the following candidates satisfied the examiners:—

Mechanics and Physics.—A. Booth, G. C. Boyd, M. de G. Boyd, C. E. N. Bromehead, A. J. B. Carrington, G. C. Clarence, H. E. Cullis, R. R. Enfield, C. R. Featherstone, R. J. Fletcher, P. L. Gibson, N. F. Hallows, A. H. Harries, T. B. Heaton, J. K. Hepburn, G. R. Hookham, J. P. Hucklebridge, J. M. Mason, M. Odling, W. J. Pearson, J. B. Reynish, I. P. Venner, V. S. von Dembski, and D. F. Wünsch.

Physics.—C. W. Armstrong, A. D. S. Arundel, T. B. Batchelor, J. L. Birley, R. B. C. Briscoe, P. R. Fairclough, H. J. H. Foreshew, C. L. Garton, M. R. Lawrence, S. F. Moore, and H. G. Morris.

Chemistry.—H. M. Bond, L. C. Boyd, C. E. N. Bromehead, C. H. Budd, A. M. Carr-Saunders, C. F. Cranswick, H. E. Cullis, V. C. H. Dearden, G. C. Dixon, R. R. Enfield, C. R. Featherstone, H. J. H. Foreshew, A. D. Gardner, P. L. Gibson, H. A. Gilbert, N. F. Hallows, C. H. L. Harper, A. H. Harries, T. B. Heaton, S. Hibbert, J. P. Hucklebridge, M. R. Lawrence, D. P. McDonald, L. N. Morrison, M. Odling, A. P. Orde-Ward, R. C. Ozanne, C. H. Pearson, J. P. Purnell-Edwards, J. B. Reynish, J. Russell, H. B. Simpkins, E. A. Smythies, W. H. Thornton, I. P. Venner, V. S. von Dembski, J. T. Wills, C. C. Wilson, and D. F. Wünsch.

Botany.—T. B. Batchelor, A. R. Cravasse, A. W. Donaldson, H. G. Farmer, J. K. Hepburn, L. E. Meinertzhagen, P. le F. Nortje, H. M. Pope, E. A. Smythies, and A. Stanger.

FOREIGN UNIVERSITY INTELLIGENCE.—*Algeria:* Dr. Cange has been promoted to the chair of Clinical Ophthalmology.—*Baltimore (Johns Hopkins University):* Dr. Charles H. Bunting has been appointed Assistant Professor of Pathological Anatomy; Dr. Thomas R. Boggs, Assistant Professor of Medicine; and Dr. Richard H. Follis, Assistant Professor of Surgery.—*Breslau:* Dr. Rudolf Stich has been recognised as *privat-docent* of Surgery.—*Cincinnati (Miami Medical College):* Dr. O. P. Holt, Professor of Physiology, has been appointed to the chair of Pathological Anatomy. Dr. Robert Ingram has been appointed Assistant Professor of Materia Medica.—*Copenhagen:* Dr. N. P. Schierbeck has been appointed *privat-docent* of Hygiene and Director of the Hygienic Laboratory. Dr. A. Helsted has been recognised as *privat-docent* of Surgery.—*Cracow:* Dr. Vincenz Lepkowski has been promoted to an Extraordinary Professorship of Odontology.—*Innsbruck:* Dr. Paul Rasch has been recognised as *privat-docent* of Skin Diseases.—*Lemberg:* Dr. Josef Markowski has been recognised as *privat docent* of Anatomy.—*Louisville:* Dr. John G. Cecil, Professor of Therapeutics, has been appointed Professor of Clinical Medicine in succession to the late Dr. J. A. Ouchterlony.—*Michigan (Ann Arbor University):* Dr. Albert M. Barrett has been appointed Assistant Professor of Neurology.—*Philadelphia (University of Pennsylvania):* Dr. W. H. F. Addison of Toronto has been appointed Lecturer on Histology.—*St. Petersburg (Female Medical Institute):* Dr. K. Susloff has been appointed Extraordinary Professor of Operative Medicine.—*Vienna:* Dr. Arthur Schattenfroh has been promoted to an Ordinary Professorship of Hygiene.

DEATH FROM ANTHRAX.—An inquest was held at Penryn, Cornwall, on Dec. 22nd, 1905, respecting the death of a labourer, aged 31 years. It was stated that the deceased received a scratch on the hand while unloading bones. Medical evidence showed that death was due to anthrax and the jury returned a verdict to that effect.

DONATIONS AND BEQUESTS.—At the opening of the Hampstead General Hospital recently the President, Sir H. Harben, announced that an anonymous donor had offered to give £20,000 on condition that £5000 were subscribed within a very short time.—By the will of Miss Elizabeth Flint of Leek, Staffordshire, £1000 are bequeathed to the Leek Memorial Cottage Hospital, £400 to the Cruso Memorial Nursing Institution, £500 for the Royal Medical Benevolent College, £500 to the Devonshire Hospital and Bath Charity at Buxton, and £500 to the North Stafford Infirmary.—Mrs. Umfreville Pickering has given £1050 to the West London Hospital, Hammersmith-road, W.—The London Lock Hospital and Rescue Home has received the following donations: Goldsmiths' Company, £100; Mercers' Company,

£100; and Fishmongers' Company, 25 guineas.—Lord Ludlow, treasurer of St. Bartholomew's Hospital, has received £100 from "A Friend" for the general funds of the hospital.—By the will of Mr. Lewis James Seargeant of Tunbridge Wells £1000 are bequeathed to King Edward's Hospital Fund for London.

ACTION FOR THE RECOVERY OF MEDICAL FEES.—At the Bristol county court on Dec. 22nd, 1905, Mr. C. C. Pratt, surgeon, of Clifton, claimed £47 from a gentleman for medical attendance upon his mother-in-law. Evidence showed that the defendant and his wife placed the patient in charge of a lodging-house keeper in Clifton, with instructions to procure for the old lady all that was necessary, including medical attendance. The defendant had paid Mr. Pratt a previous account for his attendance upon the patient. Judgment was given for the plaintiff.

THE ROYAL WEST OF ENGLAND SANATORIUM, WESTON-SUPER-MARE.—The Royal West of England Sanatorium at Weston-super-Mare is much appreciated by convalescent patients, for during the past year 2470 cases have been admitted, the daily average number of patients being nearly 200. It has recently been decided to build an annexe to the institution and this will be used by the nursing staff, and the wards which they at present occupy will give more accommodation to patients. It will also be utilised for any infectious case should an outbreak arise in the sanatorium. The committee has received £900 from a legacy which will be devoted towards the building and it is hoped that the additional sum required will be shortly forthcoming.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. E. von Kusy, director of the sanitary department of the Austrian Ministry of the Interior.—Dr. Carlo Rosanelli, formerly extraordinary professor of general pathology in the University of Padua.—Dr. De Villo W. Harrington, professor of urinary diseases in the University of Buffalo.—Dr. Domenico Chiara, formerly professor of midwifery and gynæcology in the Florence Medical School.—Dr. P. Abramicheff, *privat-docent* of dermatology and syphilography in the St. Petersburg Military Medical Academy.—Dr. Cornelis Laendert van der Burg, a well-known authority on the medico-geographical pathology of the Dutch East Indies. He was 65 years of age.—Dr. Sousa Refoios, professor of medicine in the University of Coimbra.—Dr. Ambrose L. Ranney, professor of neurology and mental diseases in the University of Vermont, Burlington.—Dr. Hans Schmaus, extraordinary professor of pathological anatomy in the University of Munich, at the age of 43 years.—Dr. J. M. Holloway, formerly professor of clinical surgery in the Kentucky School of Medicine.—Dr. Hermann Rabl-Rückhard, *privat docent* of anatomy in the University of Berlin. He received the Iron Cross for his services during the Franco-German war. He was granted the title of professor in 1884 and was for some years a member of the military examination commission. His published works deal with a variety of subjects, especially military hygiene and malingering.—Dr. André Thouvenet, formerly professor of physiology in the Limoges Medical School.—Dr. F. Hosch, extraordinary professor of ophthalmology in the University of Basle.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ANDERSON, R. W., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Practitioner under the Workers' Compensation Act for Christchurch, New Zealand.

ANGOVE, W. T., M.R.C.S. Eng., has been appointed Medical Officer to attend to the Destitute Persons and Aborigines within the District of Talunga, South Australia.

BARNARD, CHARLES EDWARD, M.D., Ch.M. Edin., has been appointed Officer of Health for the Shire of Creswick, Victoria, Australia.

BIRD, RICHARD KINGSTON, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for Arapiles Shire, Victoria, Australia.

BOYLE, H. EDMUND G., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Anæsthetist to the Paddington Green Children's Hospital.

CAMPBELL, DONALD ALBERT, M.B. Melb., has been appointed Senior Medical Officer to the Hospital for the Insane, Yarra Bend, Victoria, Australia.

DICKSON, FRANCIS HENRY, M.B., Ch.B. Edin., has been appointed Junior Assistant House Surgeon at the Stockport Infirmary.

GAUNT, J. P., L.R.C.P. Edin., M.R.C.S., has been appointed District Medical Officer of the King's Norton Union.

HILL, ARTHUR MACHEN, M.B., Ch.B. Melb., has been appointed Medical Officer for Newstead Shire, Victoria, Australia, temporarily.

HOLLOW, JOSEPH THOMAS, M.B. Melb., has been appointed Medical Superintendent of the Ballarat Hospital for the Insane, Victoria, Australia, *pro tem.*

JAMES, WALTER TIMOTHY, M.B., Ch.B. Edin., has been appointed a District Medical Officer for the Aberayron (Cardiganshire) Union.

LIDDLE, PERCY HERBERT, M.B., Ch.B. Melb., has been appointed Medical Officer for the Borough of Daylesford, Victoria, Australia.

OLLERENSHAW, ROBERT, M.B., Ch.B. Vict., has been appointed Assistant House Surgeon to the Liverpool Infirmary for Children.

PHILPOTT, ALBERT JOHN WILLIAM, M.B., Ch.B. Melb., has been appointed Medical Superintendent to the Hospital for the Insane, Beechworth, Victoria, Australia.

SMITH, H. WATSON, M.B., Ch.B. Aberd., has been appointed Second Assistant Medical Officer to the Durham County Asylum, Winterton, Ferryhill.

STEWART, J. M. Y., M.B., Ch.M. Glasg., has been appointed Gynæcologist for Out-patients at the Perth Hospital, West Australia.

THOMPSON, GEORGE WILLIAM, M.B. Edin., F.R.C.S. Eng., has been appointed Ophthalmic Surgeon in charge of Out-patients at the French Hospital, Shaftesbury-avenue.

WAUGH, GEORGE ERNEST, B.A. Cantab., M.D., B.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Hospital for Sick Children, Great Ormond-street.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL, Edmund-street.—House Surgeon. Salary at rate of £70 per annum.

BIRMINGHAM, UNIVERSITY OF.—Demonstratorship in Anatomy. Stipend £175 per annum.

BRISTOL ROYAL INFIRMARY.—Pathologist, Bacteriologist, and Director of Clinical Laboratories. Salary £250 per annum.

BURNLEY, COUNTY BOROUGH OF.—Medical Officer of Health. Salary £500 per annum.

CHESTER GENERAL INFIRMARY.—House Surgeon. Salary £100 per annum, with residence and maintenance.

DERBYSHIRE ROYAL INFIRMARY.—Two House Surgeons, one House Physician, and one Assistant House Surgeon. Salary of three former £100 per annum, with apartments, board, &c.; of latter at rate of £60 per annum, with apartments, board, &c.

GREAT YARMOUTH HOSPITAL.—House Surgeon. Salary £90 per annum, with board, lodging, and washing.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per annum, with residence, board, and washing.

NAPSBURY, NEAR ST. ALBAN'S, HERTS, MIDDLESEX COUNTY ASYLUM.—Assistant Medical Officer. Salary £160 per annum, with board, lodging, washing, and attendance.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.—Resident Medical Officer. Salary £100 per annum, with board and residence.

NORTHAMPTON GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £90 per annum, with apartments, board, attendance, and washing.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Medical Registrar; also a Surgical Registrar (females).

SALFORD ROYAL HOSPITAL.—Honorary Assistant Surgeon.

UNIVERSITY OF LONDON.—Examiners. One each in Medicine, in Surgery, and in Pathology.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon for six months. Honorarium of £25, with board and lodging.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £120 a year, with board, lodging, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

BEATTON.—At The Cliffe, Bradford, on the 2nd January, 1906, the wife of Dr. Gilbert T. Beatton, of a daughter.

FARNFIELD.—On Dec. 25th, 1905, at Mere, Wilts, the wife of William Walter Farnfield, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

FORBES.—On Dec. 27th, 1905, at Oakwood-court, Kensington, W., the wife of J. Graham Forbes, M.D., M.R.C.P., of a daughter.

SOPER.—On Dec. 29th, 1905, at Clapham-road, S.W., the wife of Bertram Soper, L.R.C.P. (*née* Frances Ash), of a son.

DEATHS.

DANIEL.—On Dec. 30th, 1905, at the Silver Birches, Epsom, William Clement Daniel, M.D., M.R.C.S., L.S.A., aged 65 years.

GRAY.—On 28th December, at 92, Anerley Park, London, S.E., Thomas Gray, M.R.C.S. Eng., and L.S.A. (formerly of 12, Montague-place, Poplar, E.), in his 90th year.

GREENER.—On Dec. 26th, 1905, at Falloden, Cathedral-road, Cardiff, Michael Hindmarsh Greener, M.B., C.M.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

NELSON'S FATAL WOUND.

WE give below a copy of a statement, written and signed by Surgeon William Beatty, commissioned on board the *Victory* at the battle of Trafalgar, who attended Lord Nelson after the receipt of the mortal wound. Surgeon William Beatty's "Authentic Narrative of the Death of Lord Nelson, with the Circumstances preceding the Happening and Subsequent to that Event" were published with a "Provisionary Report of his Lordship's Wound," and certain anecdotes, immediately after the tragic occurrence and the note that we now publish was probably one that was penned for his own use as an immediate memorandum. It bears the shape of a letter but it is not addressed to anyone and the date of the year is not stated. Mr. Dudley Brown of Woodside, Surrey, found the original document among some old papers and to his courtesy we are indebted for the copy.

[COPY.]

H.M. Ship *Victory*, 15th December.

About the middle of the Action with the Combined Fleets on the 21st October last, the late illustrious Commander in Chief Lord Nelson, was mortally wounded in the left breast by a Musquet ball, supposed to be fired from the Mizen top of *La Redoutable* French Ship of the line, which the *Victory* fell on board of early in the battle; his Lordship was in the Act of turning on the Quarter Deck with his face towards the enemy, when he received his wound, he instantly fell, and was carried to the Cockpit where he lived about two Hours.

On his Lordship being brought below he complained of Acute pain in about the sixth or seventh Dorsal Vertebra, of privation of sense and motion of the body and inferior extremities; his Respiration was short and difficult, his pulse Weak small and irregular; he frequently declared his back was shot through; that he felt every instant a Gush of blood within his breast; and that he had sensations which indicated to him the approach of death: in the course of an hour his Pulse became indistinct and was gradually lost in the Arm, his extremities and forehead became soon afterwards cold: he retained his wonted energy of mind, and exercise of his faculties, until the latest moment of his existence; and when Victory as signal as decisive was announced to him he expressed his pious acknowledgments thereof and heartfelt satisfaction at the Glorious event in the most emphatic language, he then delivered his last order with his usual precision and in a few Minutes after expired without a struggle.

Course and Site of the Ball ascertained since Death.—The Ball struck the forepart of his Lordship's Epaulette, and entered the left shoulder immediately before the Processus Acromion Scapulæ which it slightly fractured, it then descended obliquely into the Thorax, fracturing the 2nd and 3rd Ribs, and after penetrating the left lobe of the Lungs and dividing in its passage a large branch of the Pulmonary Artery it entered the left side of the spine between the sixth and seventh Dorsal Vertebræ fractured the left transverse Process of the sixth Vertebra, wounded the Medulla Spinalis, and fracturing the right transverse Process of the seventh Vertebra, it made its way from the right side of the spine, directing its course through the Muscles of the back, and lodged therein, about two Inches below the inferior angle of the right scapula.

On removing the ball a portion of the Gold lace and Pad of the Epaulette together with a small piece of his Lordship's coat were found firmly attached to it. Signed. W. BEATTY, Surgeon.

Surgeon Beatty, who was knighted many years later by King William IV., became a distinguished man in the medical profession, was physician to the Greenwich Hospital until his death in 1842, and a Fellow of the Royal Society. In Munk's "Roll of the Royal College of Physicians" it is stated that Sir William Beatty, who became a Licentiate of the Royal College of Physicians of London in 1817, kept the bullet which killed Nelson in a crystal case, mounted in gold. Sir William Beatty, who was a young man when serving on board the *Victory*, died in 1842.

SANDOW DEVELOPMENT TREATMENT: A WARNING.

To the Editors of THE LANCET.

SIRS,—This experience may interest some of your readers. Some weeks since I advised a lady patient that some physical development would be likely to be good for her and after considering the method to be adopted decided, for certain reasons, that she should write for particulars of the above. The prospectus promised *a year's* treatment for five guineas and pointed out especially that although the charge might appear to be high it included a series of instructions, forwarded from time to time, as to progressive exercises *for a whole year*. It also offered to accept *three guineas* for the *first part* of the treatment. The necessary form was filled up and sent, with a cheque for three guineas. In return a letter was received giving some very general semi-medical advice, such as the advisability of taking wine in moderation and omitting the bath during the periods, and with it a small book containing printed directions for a series of exercises to be done so many times a day *for two weeks*. After this the remainder of the five guineas became due.

I must admit that no statement was made as to the length of time of the first part of the treatment, but by implication one might reasonably have expected a good deal longer period than two weeks. *Caveat emptor* certainly—but it may be advisable that your readers should be in a position to explain the terms to any patients who are thinking of going in for this treatment. I am, Sirs, yours faithfully,

Dec. 31st, 1905. J. G.

A CORONER ON MEDICAL MISSIONS.

A RECENT occurrence at Bethnal Green throws a little light on the working of medical missions. A woman took a child to the Home of Industry Medical Mission, where she found that one of the medical officers was ill, and after waiting an hour was told that the other medical officer had wired that he too was disabled by illness. The child died from bronchitis and an inquest was subsequently held by the coroner for North-east London, Dr. W. Wynn Westcott, who is reported to have said: "These medical missions cause much trouble. They attend people for minor ailments, but if the patient is taken worse there is no one to attend him. Another doctor is called in when the patient is dying, and so an inquest is caused. Any medical charity which does not have a medical man on the premises is a nuisance." It is doubtful whether there is any need for many of these so called "medical missions." In many cases they are formed not so much for the purpose of relieving the sick poor but as an advertisement for some enterprise or other. It may be a chapel or it may be an industrial society but the object is the same in either case—viz., to attract support by the offer of cheap or gratuitous medical attendance.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), West minster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (10th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (11th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.) Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.).

SATURDAY (13th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmi (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (8th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Papers:—Children's Diseases—(1) Dr. E. Cautley: Chronic Membranous Colitis in Infancy; (2) Dr. C. R. Box: Bronchiectasis in Childhood.

TUESDAY (9th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Papers:—Dr. A. Haig: Capillary Circulation and Blood Pressure and the Conditions that Control Them.—Dr. F. Taylor: Three Cases of Myoclonus.

WEDNESDAY (10th).—HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8.30 P.M. Pathological Meeting.
DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Meeting.
THURSDAY (11th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Annual General Meeting. The President (Dr. W. Alexander): Valedictory Address.
FRIDAY (12th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Mr. L. McGavin: Transverse *versus* Inguinal Colotomy. Mr. A. I. Pinches and Mr. E. M. Corner: Further Cases of Torsion of the Omentum.—Dr A. E Garrod and Dr. Langmead: A Case of Associated Malformations including Transposition of Viscera.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (8th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—College opens.
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Saunders: Examination of Stomach and Gastric Contents.
TUESDAY (9th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. H. Campbell: Clinique. (Medical.) 5.15 P.M. Opening Lecture:—Sir Felix Semon, K.C.V.O.: Some Unusual Manifestations of Syphilis in the Upper Air Passages.
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. S. Taylor: Errors in Treatment.
WEDNESDAY (10th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Cantlie: Clinique. (Surgical.) 5.15 P.M. Lecture: Dr. G. H. Savage: Climacteric Insanities.
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Beddard: Practical Medicine. (Lecture I.)
THURSDAY (11th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Lecture:—Mr. L. Mummery: Some Problems in Morbid Physiology.
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Davis: Some Common Diseases of the Pharynx and Larynx. (Lecture I.)
FRIDAY (12th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Clinique. (Eye.)
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Lloyd: Anæsthetics. (Lecture I.)
NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Opening Lecture:—Mr. J. Langton: Exploratory Laparotomy, its Objects and Limitations.

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1905, which was completed with the issue of Dec. 30th, are given in this number of THE LANCET.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1905 will be ready shortly. Bound in cloth, gilt lettered, price 18*s*., carriage extra.

Cases for binding the half year's numbers are now ready. Cloth, gilt lettered, price 2*s*., by post 2*s*. 3*d*.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 3rd, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall.	Solar Radiation Varno.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks
Dec. 28	29·49	S.E.	0·09	45	45	37	41	42	Raining
,, 29	29·24	N.E.	0·07	52	47	42	44	45	Raining
,, 30	29·94	N.E.	0·17	51	42	40	39	41	Cloudy
,, 31	30·29	N.E.	...	40	33	32	Fzn.	32	Cloudy
Jan. 1	29·89	S.E.	...	42	42	30	Fzn.	32	Cloudy
,, 2	29·79	S.	...	46	44	32	41	42	Overcast
,, 3	29·53	SSE	0·14	51	51	40	41	42	Cloudy

During the week marked copies of the following newspapers have been received: *Sussex Daily News, Dispatch (Manchester), Liverpool Daily Post, Surrey Advertiser, Westminster Gazette, Yorkshire Post, Notts Guardian, Aberdeen Journal, Australasian Medical Gazette, American Journal of Surgery, Daily Express, Maryland Medical Journal (U.S.A.), Canadian Journal of Medicine and Surgery, Army and Navy Gazette, Birmingham Mail, Morning Post, Standard, Daily Chronicle, Express and Echo (Devon), Globe, Belfast Whig, Birmingham Weekly Post, Sheffield Telegraph, Glasgow Citizen, Yorkshire Observer, Leicester Advertiser, Portsmouth Independent, Newcastle Chronicle, Manchester Guardian South African Record, &c.*

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